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Newtown 1886 - Pg. 21.
" " " 35 -
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" " " 41 -
Charlotte 1887. " 32 -
" " " 40

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TRANSACTIONS

—OF THE—

THIRTY-THIRD ANNUAL MEETING

—OF—

THE MEDICAL SOCIETY,

—OF THE—

STATE OF NORTH CAROLINA,

HELD AT NEW BERN, MAY, 1886.

WILMINGTON, N. C.:
JACKSON & BELL, WATER POWER PRESSES.

1886.

Note by Committee on Publication.

The reporter of the Transactions failed to make proper notice of the remarks of Dr. Cheatham in the discussion ensuing upon the reading of the essay. Dr. Cheatham alluded at length to the late investigations of Debove and Millard, describing the methods of forced feeding, gavage, and the initial proceeding to this form of artificial alimention, the preparation of the stomach by rinsing it out. He then recited an interesting history of a case of œsophogeal stricture which, after being under the care of other distinguished surgeons and physicians, had come to him for relief. He was enabled to prolong the life of his patient for six or seven months by the careful and skilful administration of food by the rectum.

The article on Terebinthenates, by Dr. Thomas F. Wood, has not been finished. The continued illness of this gentleman has forced him to give up the investigation of which the paper was to be the record.

The reader will notice the absence of Dr. Young's Essay. The original which was handed to the Secretary for the Publication Committee, was returned to the author at his request, for some correction, but never reached him. Diligent search was made for it by the postmaster at Wilmington, where it was mailed, without avail, and Dr. Young was unable to procure a copy to replace the lost one. This is much to be regretted, for its reception by the Society was a most flattering one, and its absence from this volume of the Transactions will detract seriously from its value.

ERRATA.

Page 63, line 14 from the top of page, read "$\frac{1}{12}$ *grains of sulphate of strychnia*," instead of "1½ grains of sulphurate of strychnia."

Page 64, line 29 from top of the page, read "*Conjunctiva was deeply injected*," instead of "Conjunction was deeply injected."

Page 66, line 9 from top of the page, read "*fifth day of the disease*," instead of "first day of the disease."

Page 97, line 12 from the bottom, read "*responsible*."

Page 110, line 14 from the bottom, read "*mollified*."

REPORT OF FINANCE COMMITTEE.

The Committee on Finance report that having carefully examined the Treasurer's books, they find:

Balance on hand May 19, 1886	$ 256 92
Amount collected from members	762 00
	$1,018 92
Bills paid as per vouchers	561 75
Balance on hand	$457 17

We recommend the assessment at $2.00 per capita, and the same salary to secretary and Treasurer as before, to wit: To Treasurer, $50; to Secretary, $100.

T. D. HAIGH.
E. H. HORNADAY,
S. W. STEVENSON.

MINUTES

—OF THE—

THIRTY-THIRD ANNUAL SESSION

——OF THE——

Medical Society of North Carolina.

FIRST DAY—MORNING SESSION.

NEW BERN, N. C., May 19th, 1886.

The thirty-third annual meeting of the Medical Society of the State of North Carolina met in the new Court House in New Bern on the 19th day of May, 1886.

The meeting was called to order by the President, Joseph Graham, M.D., of Charlotte.

Dr. J. B. Hughes, chairman of the Committee of Arrangements, introduced Rev. L. W. Crawford, of the M. E. Church, South, who opened the meeting with an appropriate prayer.

Dr. Hughes then introduced Hon. C. C. Clark, of New Bern, who delivered the address of welcome, as follows:

Mr. President and Gentlemen of the State Medical Society of North Carolina:

It has been made my pleasing duty, through a kind partiality which I fondly prize, to extend to you, in the name of the whole people of New Bern, a most cordial welcome to their generous kindnesses and unstinted hospitality. We feel honored by your presence, and most humbly invoke Heaven's blessing on your deliberations.

When I recur, Mr. President, to your ancient origin, and trace all along down through the ages, in wars, famine, pestilence, disease, devastations and death, your heroic and self-sacrificing efforts, con-

stantly and perseveringly put forth, to lift humanity up above humanity's infirmities, I realize a holiness and tenderness of relationship, drawing us nearer and nearer together, which purifies the heart of the least taint of hypocrisy and deceit, and emphasizes, with the profoundest sincerity and truth, the earnest greeting: Welcome! thrice welcome! distinguished representatives of the most honorable fraternity, which was born in philanthropy and baptized in patriotism.

We live, Mr. President, in what is vaingloriously termed an eminently practical age—an expression to which I will, under the inspiration of this interesting occasion, give an accurate and comprehensive interpretation, thus: an age in which every talent, every energy, every sensibility, every attainment must be so subordinated to the accumulation of wealth, that the muscle which digs up the money may be much more honored than the brain which ennobles and blesses mankind. It is capital that leads society; it is capital that dominates legislation; it is capital that shackles and controls the intellect; it is capital that deadens moral sensibility; it is capital that stifles religious truth; it is capital that makes the politician a scamp; it is capital that debases the statesman into the demagogue; it is capital that oft circumscribes the influence of the pulpit, detracts from its mighty power and obscures its holy prerogative; it is capital that is prostituting the profession of law, until it is fast degenerating into the trickiest of trades; and it is capital that is everywhere seeking to put its yoke on the necks of the people, that all may be forced to bow, in abject submission, to the golden calf, and acknowledge money to be the only true god.

Humbled and appalled, Mr. President, by these startling developments of this closing era of the nineteenth century, with all its boasted paraphernalia of science and learning, how refreshing it is to refer to your great founder and his noble conduct, when, with his big heart beating with the loftiest aspirations and fully responsive to the needs of the people and the claims of patriotism, he disseminated, without price, his constantly increasing knowledge of the curative art, and sanctified his whole life by an unreserved dedication of his powers and his service to the honor and glory of his own beloved native land. He lived a century, less one year, having had his sublime integrity and benevolence rewarded by a kind Providence with a long life, that he might fully illustrate the aims

and purposes of his noble profession, and exemplify, "as its Homer," the true poetry of human life and human effort. When dead he was crowned "*Divine* and *Great*," as the benefactor of his race, and a splendid specimen of lofty, genuine manhood, mitigating human woes, alleviating human distresses and fulfilling human destiny.

And to-day, Mr. President, after the lapse of more than two thousand years, with their tremendous record of revolutions, moral, social, political and intellectual; of numberless overturnings and numberless upbuildings, of darkest crimes and brightest virtues; I eagerly seize the opportunity to felicitate you that you have been, and are still, loyal to the genius of a great, beneficent and illustrious example.

Dame Nature herself, for obvious reasons, Mr. President, incited the expression of the poetical sentiment, "that the incidental beauties which the meridian sun exhibits are much fewer than those of the rising sun." But yet, Mr. President, when the day-king "rides high at noon," and his rays fall perpendicularly on the grateful earth, shades and shadows disappear, and light beams everywhere, blessing everything. So, Mr. President, the sun of your profession, from increasing attainment, advancing knowledge, just and benignant legislation, the cultivation of a proper *esprit de corps*, the wise, judicious, consecrated work of associated effort, has been rising higher and higher, under the brilliant impulse of its earliest morn, until it seems now to be almost reaching its meridian splendor, with the shade of darkness almost gone, and the glorious light shedding its healing effects, in the fullest fruition, in almost every nook and corner, where humanity can suffer and humanity may be blessed.

And still full, Mr. President, of the same philanthropic sensibility; still inspired with the same patriotic devotion; still ardent, persistent and unselfish in the pursuit of knowledge; still the patient explorers of the abstruse fields of science; still the unfeigned, wise and intelligent lovers of humanity, you have, by your gentlemanly deportment, your chaste and courteous relations, your disinterested service, your suavity and urbaneness of manners, your mildness and gentleness of speech, your benevolent visitations, your dexterous skill in protecting health, in conquering pain and in snatching life from the jaws of the grim monster, rendered your-

selves and your profession worthy of all honor and emulation, and I would that all stood on the same immutable foundation of truth, dignity and manhood.

This, Mr. President, is no fulsome eulogy. You deserve it every whit. And when I cast my eyes back to the ancient renown of this historic city, to the brilliant coruscations of its still more brilliant geniuses, its heroes, its statesmen, its orators, its philanthropists, its godlike women, who are indeed and in truth the source of all true greatness, and remember that we are, to-day, the sons and daughters of such a noble ancestry, I feel under the influence of the kindling emotion that I but voice the unanimous sentiment of those I represent, when, in grateful appreciation of the truths I have uttered, I again, on their behalf, extend to you the welcome of the heart to the domesticity of our firesides, the hospitable provisions of our homes, and bid you God-speed in the prosecution of your noble work.

Carlyle, Mr. President, who was peculiar in his originality and quiet in his greatness, has said : "The latest gospel in the world is: Know thy work, and do it." How replete with wisdom, how abundant in philosophy !

You, Mr. President, and gentlemen of the Society, are about to engage in your work ; and while I would not essay, ignorant as I am of the rational processes of your technical action, and the maxims and scientific appliances which conduct you to wholesome conclusions, to obtrude myself into the domain of your research, or even venture to proffer one word of counsel, yet will you pardon me for making just one modest suggestion, seemingly wise and so very appropriate to every stage of your professional labor? You are, doubtless, thoroughly conversant with the broad field of your work, and its urgent demands on your benevolence, patience, wisdom and learning ; yet, Mr. President, when clouds obscure your pathway, when apprehensions arouse your timidity, when intricacies puzzle your intellect, when novelty would fold up the wings of your aspiring genius, remember this, that as the very embodiment of eloquence ascribed the success of the heaven-born art of action ! action ! action ! so with you ; all progress and every victorious achievement must depend on action ! action ! action ! For pursuant to the divine economy, and, in accordance with the limited attributes of the human intellect, "Doubt of whatever kind is ended

by action, and action alone." Not to solve the doubt is to wrap the black mantle of ignorance around you, and ignobly submit to the tyranny of your deadliest foe. Doubt, Mr. President, must always be the manacled captive that sheds the greatest lustre on your triumphant brain.

One word more, Mr. President, by your kind indulgence, and I have done.

No polished historian's facile pen may ever record your grandest deeds of patience, courage, skill and beneficence; no monument of brass or stone may ever rear its lowering column to perpetuate the memory of your most exalted virtues. No painter's brush, with beauty's touch, may ever delineate, on the speaking canvass, the noblest acts of moral heroism which may bedeck your lives. All these may be the flattering heritage of poets, orators, statesmen, military chieftains, whose deeds, born of the earth, receive from the earth their glittering rewards. Yet, Mr. President and gentlemen of the Society, as you wearily trudge along day by day, and night after night, strewing here and there and everywhere your flowers of consolation, which bloom as well beneath cold winter's stars as in the genial summer's sun, I conjure you to recall, in your sublime renunciation of this world's bright but fading honors, the most exquisite lines which were ever embelished by the divinest touches of the poets most royal fancy:

> "Full many a gem of purest ray serene,
> The dark, unfathomed caves of ocean bear;
> Full many a flower is born to blush unseen
> And waste its sweetness on the desert air."

And then remember, Mr. President, that this is true only *here*, not so *yonder*, "just over the river," where the Great Physician dwells, to whose healing tenderness and love I finally commend you.

God bless you, Mr. President, one and all, and fully develop the plenary capabilities of your profession for alleviating the woes and distress of fallen man.

President Graham's response to the address of welcome was a neat and beautiful expression of the appreciation of the members of the Society for the kindnesses which had been extended them. He spoke of the high position which New Bern held among the cities of North Carolina, and deemed it eminently fitting that the

Society should have come among so loyal a class of citizens. The heart of every North Carolinian is filled with pride whenever they mention the name of Gaston, or of Spaight, or of Hawks, or of a host of other illustrious men. The Church, the Bar and the Medical Profession are all alike proud to claim among their brightest lights citizens of your city. During all the meeting the Society would sit with open doors, and would be glad to welcome any of the citizens who would take any interest in the proceedings.

On motion of Dr. Satchwell, the thanks of the Society we e tendered Mr. Clark for his address of welcome, and he was requested to furnish a copy for publication.

When the roll was called the following gentlemen answered to their names:

Drs. B. P. Alston, Willis Alston, W. W. K. Anders, L. M. Archey, H. T. Bahnson, J. H. Baird, Julian M. Baker, A. J. Battle, W. J. H. Bellamy, W. L. Best, Patrick Booth, S. D. Booth, Walter Brodie, F. Broyles, D. G. Caldwell, A. G. Carr, Leroy Chappell, W. T. Cheatham, J. I. Coleman, W. J. Cook, Charles Duffy, Jr., Francis Duffy, James B. Dunn, C. W. Eagles, G. C. Edwards, John M. Emmett, W. T. Ennett, John M. Faison, H. B. Ferguson, W. G. Freeman, M. H. Futrell, J. B. Gaither, W. C. Galloway, G. W. Graham, Joseph Graham, T. D. Haigh, J. M. Hayes, W. D. Hilliard, James M. Hodges, E. H. Hornaday, F. W. Hughes, J. B. Hughes, M. C. Hunter, J. W. Jones, W. J. Jones, Thomas M. Jordan, W. P. Kenedy, George L. Kirby, A. W. Knox, A. M. Lee, R. H. Lewis, George W. Long, J. F. Long, John McDonald, D. B. McNeill, J. W. McNeill, G. E. Matthews, C. A. Meisenheimer, P. L. Murphy, W. C. Murphy, J. L. Nicholson, J. T. Nicholson, S. T. Nicholson, Charles J. O'Hagan, A. D. Pair, R. L. Payne, Jr., L. J. Picöt, A. B. Pierce, N. J. Pittman, C. M. Poole, Elisha Porter, J. A. Reagan, W. E. Richardson, J. D. Roberts, G. J. Robinson, S. H. Rogers, F. M. Rountree, S. S. Satchwell, J. F. Shubrick, G. G. Smith, R. T. Spencer, John A. Stevens, S. W. Stevenson, N. H. Street, J. J. Summerell, J. N. Taylor, George G. Thomas, Henry Tull, W. E. Turlington, Thos. S. Vickers, W. H. Whitehead, W. C. Whitfield, W. H. Wilson, W. R. Wood, R. S. Young.

When the name of Dr. Thomas F. Wood was reached, Dr. George G. Thomas rose and explained that the absence of Dr. Wood was caused by a serious sickne s.

Dr. Picöt, in well chosen remarks, voiced the sentiment of all present in his expressions of deep regret at the absence of Dr. Wood and sympathy for him in his sickness, saying that the Society would feel his absence more than that of any other member. He moved that a committee of three be appointed to draft resolutions of sympathy and regret to be telegraphed to Dr. Wood. The motion was carried unanimously, and the chair appointed on said committee Drs. Picöt, Charles J. O'Hagan and George G. Thomas.

The chair announced the following committees:

Finanee—Drs. T. D. Haigh, S. W. Stevenson and E. H. Hornaday.

Credentials—Drs. Charles Duffy, A. G. Carr and G. G. Smith.

The President's Message was postponed until a later hour by request.

Dr. S. D. Booth asked that his resolution relative to the localization of the Society at Raleigh and the establishment of a library and museum in the Capital, which was offered at the last meeting of the Society, be brought up for action. He read from the Transactions of 1885:

Resolved, That all regular meetings of the Medical Association of North Carolina be held in the city of Raleigh.

Resolved, That a tax of $1 *per capita* be levied upon the members of this Society, which shall be collected each year in addition to the regular dues, and the amount so raised shall be set apart as a sinking fund.

Resolved, That the said fund shall be put into the hands of a committee which shall be selected for that purpose, and this committee shall so invest or lend the money so raised as will continually draw a good interest.

Resolved, That when a sufficient sum shall have been raised that this Association direct such a building to be erected in the city of Raleigh as will be a suitable depository for interesting and useful articles pertaining to medicine and surgery, and that the museum and library shall always be under the immediate direction of the officers of the Medical Association.

Dr. Picöt offered to amend by striking out the first proposition, that all regular meetings of the Society be held in Raleigh, which was seconded by Dr. A. B. Pierce.

Dr. A. G. Carr would like to have it read Durham instead of Raleigh, but his motion to that effect did not meet with a second.

Dr. Booth said that all the opposition which the resolution met with at the last meeting sprung out of the first clause, which Dr. Picöt's amendment would strike out. He knew of a number of valuable specimens being annually lost which could be placed away

and made a source of instruction and do great good to the members of the profession. We need a place to take care of these specimens, and every medical society ought to have a library; when a member stumbles upon an interesting case which he wishes to report and wants to go back and hunt up statistics, there are few who have a library to which he can refer. Raleigh is in the centre of the State, a convenient place of meeting, and he thought although it was interesting to change the meetings from place to place, the Society is not what it would be if the sessions were held at the same place each year.

Dr. O'Hagan thought it involved two propositions, one of which has been discussed in this Association for a long time—that of having a permanent place of meeting for this Society. There is not one single phase in which the question can be presented to the minds of the members in which it has not been presented before, and he believed a large and overwhelming majority of the members present have disapproved of it. It has been the opinion of those among us who are considered wisest that to localize the meetings of this Society would seriously impair its usefulness. The example of other scientific bodies, not only in the United States, but throughout Europe, has been adduced time and time again to prove that it does not add to the efficiency of such bodies to localize them. He thought the idea of forming a nucleus for the founding of a library and museum a good one, but doubted if any of those present will live to reap the benefits of such an institution in this State.

Dr. Booth accepted Dr. Picöt's amendment, and the resolution was read as amended.

Dr. Haigh offered an amendment inserting in the last clause after the word Raleigh "or such other place as may be determined by the Society."

Dr. George W. Graham offered to amend by striking out the word Raleigh and leaving the name of the place blank, which amendment Dr. Booth accepted.

Dr. Summerell thought the whole project impracticable at present. Unless the Society is localized and the meetings held at the same place in which the library is situated the members have no opportunity of consulting the library, even once each year, except by a special visit.

On motion of Dr. Pierce, the resolution was laid upon the table.

The chair appointed on the Anditing Committee Drs. Rountree, Bahnson and Summerell.

Vice President Picöt being called to the chair, the President, Dr. Joseph Graham read his Message. (See Appendix.)

It was voted that the thanks of the Society be tendered the President for his very able address, and that a committee be appointed to embody his suggestions in a report to be presented to the Society for action.

Dr. R. H. Lewis said it was very important to make a statement regarding a resolution made by him at the last meeting making the Nominating Committee consist of nine members, to be appointed one from each judicial district. He said when he offered the resolution he intended it to lay over twelve months, and it should have done so, as it involved a change in the Constitution. His object in offering the resolution was that, as there were sometimes complaints heard that the President was invested with too much power, in that he appointed the Nominating Committee he could practically name the officers for the next year, those members making these complaints might have an opportunity to speak on the subject and make their grievances known to the Society, or if they failed to avail themselves of the opportunity, that no further insinuations of bad faith in office should be made. He thought, however, there must be an error somewhere, as the resolution is only eligible for action at this meeting. Individually he is opposed to the resolution. He thought the present arrangement preferable, and as he said before, his object in introducing it was that the members might discuss it.

The Secretary read from the minutes of the last meeting showing that the resolution was acted upon at that meeting on the ground of its being an amendment to a resolution introduced by Dr. Faison at the meeting previous.

On motion of Dr. Pierce, it was voted, in consideration of the action of the last meeting having been premature, Dr. Lewis' resolution having nothing whatever to do with that offered by Dr. Faison, that the transactions of the Durham meeting be corrected by leaving out the part relating to the adoption of Dr. Lewis' resolution. The resolution then being before the house for action, Dr. Lewis withdrew it.

The President announced that he had received an invitation from

the President of the A. & N. C. R. R. Co. for the Society to take an excursion to Morehead City.

On motion, a committee was appointed to consider the matter, and, if feasible, accept the proffered courtesy.

Dr. Haigh offered the report of the Finance Committee. (See Appendix.)

The report of the Committee on Credentials made at this point was temporarily withdrawn at the instance of Dr. R. H. Lewis, because it appeared that there were among the names of licentiates from the Board of Examiners, included in the report, that of a colored graduate. It was neither the intention of the Society to admit the colored licentiates to membership, nor had they expressed any disposition to seek this affiliation. When the name was withdrawn the report of the Committee was read, as follows:

D. B. Zollicoffer, Garysburg; Julius Alex. Faison, Mt. Olive; E. H. Bobbitt, Palmer Springs; E. Rose Dorsett, Salisbury; U. S. Hassell, Jamesville; G. H. Dodd, Clayton; James L. Maury, Beaufort; H. E. Jackson, Pittsboro; B. S. Utley, Holly Springs; S. P. Sparrow, Sladesville; Edward Clark, Middleton; Frederick A. Whitaker, Trenton; Christopher J. Mattocks, Polloksville; R. W. Thomas, Durham; Eugene M. Littlejohn, Thomasville; A. W. Hamen, Laurinburg; Charles Duffy, Sr., Catharine Lake; Jas. M. Boyette, Little River Academy; James H. Powell, Castonia; A. L. Petner, Winston; Starke Hassell, Tyrrell county; James Rufus Rogers, Wake county; John L. Moore, Halifax county; Thomas J. Phillips, Dalton; George W. Kernodle, Alamance county; Jos. J. L. McCullers, Raleigh; Frederick F. Ford, Catawba county.

Adjourned to 4 o'clock P. M.

First Day—Afternoon Session.

The meeting was called to order at 4 o'clock.

Dr. O'Hag anrequested the reading of Dr. Lewis' resolution offered at the Durham meeting and acted on at this morning's session. During the discussion that followed Dr. W. J. Jones offered an amendment, as follows: That the President be authorized to appoint nine members instead of five on the Nominating Committee, and that the majority of the nine selected elect the President

for the succeeding year, and this nine be selected one from each congressional district, and where a district was not represented that a second be appointed from the district having the largest representation. After considerable discussion *pro* and *con*, on motion of Dr. O'Hagan, the whole matter was laid upon the table by a vote of 25 to 17.

The resolution offered by Dr. Booth at the last meeting looking to the establishment of a medical department at the State University was read, and Dr. William R. Wood, a member of the committee appointed to consider the matter, suggested, in the absence of Dr. Thomas F. Wood, some other member be appointed to take his place. On motion of Dr. A. G. Carr, Dr. W. T. Ennett was appointed.

The committee appointed to consider the invitation extended the Society by the President of the A. & N. C. R. R. Co. made the following report:

"Your committee beg leave to report that they recommend that we accept the invitation of President Bryant to visit Morehead City, and that we hold a morning session from 9 A. M. to 1 P. M. to-morrow, leaving the depot at 2:15 P. M. *sharp*, returning by 7:30 o'clock P. M.

"Respectfully submitted,

"J. D. Roberts,
"S. S. Satchwell,
"C. M. Poole."

A discussion followed which was participated in by several members, the general drift being that while the Society appreciated the courtesy of the President of the A. & N. C. R. R. Co., the work to be done would not permit the acceptance of the invitation.

Dr. J. W. Jones said the conjoint session with the Board of Health was appointed for to-morrow, and he considered that one of the most important things of the whole meeting, and an excursion to-morrow would very materially interfere with the important work to be done.

Dr. Lewis moved that "on account of the kind hospitalities already extended us by the citizens of New Bern, the acceptance of any other invitations would so interfere with the business that we will have to decline the invitation," which was adopted.

Under the head of new business Dr. Satchwell presented a paper by title, which was referred to the Committee on Publication.

Dr. Cheatham read a paper on "A Case of Opium Poisoning." (See Appendix.)

On motion of Dr. Booth, it was referred to the Publication Committee.

Dr. George G. Thomas presented the report of the Board of Censors, and asked the views of the members on the following question: "Can a practitioner of general medicine advertise his readiness to do a gynæcological practice unless he relinquishes his general practice and limits it to the branch he wishes to follow?" He said the gentleman who asked the question said he did not wish to do anything contrary to the Code of Ethics. He told him the Board was of the opinion that inasmuch as gynæcological practice was necessary to every practicing physician, it could hardly be called a specialty in North Carolina, and in the light of such a fact existing they did not think it was allowable for him to advertise.

Dr. R. H. Lewis said when he began practice as a specialist he made some inquiries so as to be strictly within the law. He understands the law to say that a man can advertise if his business is restricted entirely to the practice of any one branch. He cannot do a general practice and claim that he is a specialist of any sort.

Dr. George W. Graham said he had occasion at one time to look into this question, and consulted Dr. N. S. Davis, who held that a man could not advertise any branch unless he restricted his practice to that branch.

Dr. O'Hagan said in reference to the question asked by Dr. Thomas he thinks Dr. Graham's remarks cover the case entirely, and, according to the views of Dr. Davis, the gentleman should not be allowed the privilege. A general practitioner who advertises a specialty intimates a superiority over his neighbors, and he thinks the sense of the meeting is that he should not be allowed to do it.

Dr. Thomas, in continuation of his report, read the following correspondence:

"Tarboro', N. C., April 2, 1886.

"Dr. G. G. Thomas, Wilmington, N. C.:

"*Dear Doctor:*—I enclose a placard sent me a short while ago.

As a member of the Board of Censors I think you the proper one to have charge of it.

"Yours, very truly,

"JULIAN M. BAKER, Secretary."

"DR. OSCAR GREGORY

"Obtained distinction in Medicine at the University of Virginia in the year 1853. Graduated from the Jefferson Medical College, Philadelphia, 1854. Member of State Medical Society of North Carolina. Ex-Vice-President Medical Society Halifax county, North Carolina. Through appointment of Gen. Magruder, made by request of Col. Thomas F. Goode, Surgeon of Third Virginia Cavalry part of the late war, and in army of Northern Virginia during the entire war. After an active practice of nearly thirty-two years he offers, the services of his profession, in all its branches, to the people of Oxford and surrounding country. Having always enjoyed a liberal patronage from every community in which he has lived, he is encouraged to hope for the same in Oxford, where he has determined to make his permanent home. Charges will be the same as those of the physicians of Oxford. He also claims to possess that charity for which his profession has always been so justly distinguished. Can be found in his office over Lassiter & King's Drug Store, or at residence on College street, sign of the red post."

"WILMINGTON, N. C., May 7, 1886.

"DR. OSCAR GREGORY, Oxford, N. C.:

"*Dear Sir*:—The Board of Censors of the Medical Society of North Carolina are in possession of a hand-bill issued by you at Oxford. As the character of this circular is inconsistent with a just construction of Section 1, Article 2, Code of Ethics, under general heading, "Of the duties of physicians to each other and the profession at large," we feel compelled to report the whole matter to the Society at its approaching meeting in New Bern. We ask, therefore, to call your attention to the Section of the Code above referred to, and to inform you of the intended action of the Board, in order that you may present to the Society any explanation you may see fit. If you so elect, we will be pleased to offer your communication to the Society, unless you intend to be present in person. It is due you that you know, we are inclined to believe your error in this matter one of oversight, but the violation of the written

law cannot go unnoticed, even though the breach be slight; for to overlook this fault may lead others to commit greater wrongs, and in extenuation plead your case as having been passed over without notice or censure. We hope to hear from you at your convenience.

"Respectfully,

"GEO. GILLETT THOMAS,
"W. J. LOVE,
"WM. W. LANE.
"Board of Censors."

"OXFORD, N. C., May 10, 1886.

"*Board of Censors Medical Society of North Carolina:*

"GENTLEMEN:—Your communication of the 7th inst. has been received. I thank you for the opportunity given me for explanation. I had not read the Code in sometime before the circulation of the advertisement to which I suppose you refer. But, after a careful perusal of the section mentioned, I fail now to perceive how the freest rendering of it prohibits a doctor from placing before a new community his proper credentials as a physician. I conceive, if this is not his privilege, he has no right to ask the patronage of that public. If, however, you, as the Board of Censors, interpret it thus, I submit, and would be glad to have the specific infraction explained to me. I made no advertisement calling the attention of individuals affected with particular diseases, claimed no specialty, promised no radical cures, published no cases or operations in the public prints, said nothing derogatory to any physician, made it known that my charges would be the same as the physicians of Oxford, and have withheld certificates of character and merit now in my profession from physicians in Virginia. My sole motive was to make myself known at once as a physician of good standing. I know of no other way to do this than to tell the people where I graduated, what positions I had held in other places, and this appeared to me entirely honorable and legitimate. In fact, I submitted it to several of the leading doctors of Oxford, and they did not find it obnoxious. There was only one who did—a very young one.

"I am a man well on in years, and came recently from a section of country rendered almost bankrupt by several consecutive bad crops of cotton, made also objectionable by negro supremacy. I was attracted to this tobacco district by its prosperity and by the representation of a large surplus practice. Having a family of some size dependent on my practice, their necessities would hardly permit me to wait to build

up a new reputation, especially as this is entirely a rural district, where a card in the newspapers would be noticed by very few. I have ever been exceedingly jealous of my professional integrity, and careful to preserve (as I construe it) the spirit as well as the letter of the Code. For the establishment of my reputation in these things I can confidently refer you to all the physicians with whom I have practiced—among them Drs. A. B. Pierce, J E. Green, Collins, Petway, O'Brien, Gee, of Halifax, from whence I have recently removed, and I dare say, though they did not practice in my immediate vicinity, Drs. W. R. Wood, Willis Alston and L. J. Picöt would give you assurance of the same.

"Hoping to hear from you soon, and submitting myself entirely to your decision

"I am, most respectfully, yours to command,

"O. GREGORY."

"WILMINGTON, N. C., May 16, 1886.

"DR. OSCAR GREGORY, Oxford, N. C..

"*Dear Sir:*—In answer to your letter of the 10th, we beg leave to say there is a wide difference between a simple advertisement offering your professional services to a community in which you have determined to settle, and the utterance of a hand-bill of more or less modest autobiographical proportions.

"It will hardly be claimed necessary, we think, to offer to the intelligent and discriminating people of Granville county as a reason for expecting a share of their practice, that you are in possession of certificates of distinction from the medical school of the University of Virginia; that you hold a diploma from the University of Pennsylvania; that you were the recipient of the good offices of Col. Thomas Goode, and through his influence promoted to high rank as surgeon during the war, and that you were able to maintain your place and reputation; that always enjoying the patronage of the good people among whom you had lived and the confidence of your fellow-practitioners for thirty-two years, you would expect a continuance of this esteem in your new home; or that you would dispense a professional charity to worthy persons whenever they presented themselves. We deem all this entirely unnecessary, and really your own high character bears us out in this opinion. It is just the point we raised before, that you have erred through oversight, that seems to make it necessary now to say in plain terms, you have over-advertised, and that hand-bills

are not permissible under a just interpretation of the Code, especially in this day of newspapers, when a very simple advertisement ought to serve to announce you. You are very publicly advertising; you are in a measure offering advice to the poor gr tis; that is the way we construe your claim to be as charitable as the professional man at large is supposed to be, and you are adducing certificates of success, at least in the references you make to positions of honor and trust you have held. Please understand, dear doctor, we are not administering any censure; for this is the prerogative of the Society. But we wish you to understand why we have arraigned you, and while we think you have violated the spirit and letter of the Code, we still believe you have committed this error unintentionally, because we accept most cheerfully your assertion of jealously caring for your professional integrity. Therefore, as we are in duty bound, we shall submit this whole matter to the Society, including the hand-bill and this correspondence, with the recommendation that these exhibits shall stand as censure enough, in view of your previous good record and estimable character.

"Yours, very respectfully,

"GEO. GILLETT THOMAS,
"WM. J. LOVE,
"WM. WALTER LANE."

Dr. O'Hagan asked Dr. Pierce to give the Society some information as to the position occupied by Dr. Gregory while practicing in Halifax.

Dr. Pierce said it had been his good fortune to be associated with Dr. Gregory for several years, and he always found him an honorable competitor, and he was sorry and felt grieved that he had committed this error, and he supposed he had done it unintentionally, and he did not believe that he thus committed an infringement of the ethics of the Medical Society of North Carolina.

Dr. Hays said he was the cause of this matter being brought before the Board of Censors. Dr. Gregory had these cards set up all over the town of Oxford He did not say anything about it till Dr. Gregory presented one of them to a patient of his (H's), knowing at the time that it was Dr. Hays' patient. When he told Dr. Gregory that he was violating the spirit of the Code of Ethics, Dr. G. differed from him, so he thought it well to bring the matter before the Board of Censors. He thought, however, with the gentleman from Halifax,

that Dr. G. intends to do what is right, but that he is guilty of an error, and that if he acknowledges the error the matter might be dropped.

After hearing from several gentlemen the circumstances in the case which led to the committing of the error, on motion of Dr. George Graham, the report of the Board of Censors was received.

The Committee on Credentials made the following report, which, on motion, was received:

Drs. Thomas H. Leary, Edenton; Samuel C. McClure, Statesville; Hiram T. Chapin, Pittsboro', Lawrence B. Young, Rolesville, Wake county; Kenneth M. Clark, Kittrell's, Vance county; George Alex. Ramseur, Maiden, Catawba county; John P. Monroe, Durham Wm. H. Ward, Plymouth, Ivy G. Riddick, Raleigh.

The chair called for the report of the chairman of the section on surgery. The Secretary announced that Dr. Pritchard, the chairman of that section, was absent.

On motion of Dr. McDonald, the thanks of the Society were tendered the New Bern Firemen for their invitation for the members of the Society to witness their exhibition performance.

On the call for the report of the chairman of the section on Medical Jurisprudence, the new section established at the last meeting, Dr. J. D. Roberts, of Goldsboro', read an exhaustive and well prepared paper on the subject, bringing out many points of great importance and interest to the profession. Dr. Roberts said he had prepared notes on several other matters connected with insanity, but in writing them up found they would be too long to read, and so he cut out a portion of them. He would like, with the consent of the Society, to finish those notes and send them to the Publication Committee.

On motion it was voted that Dr. Roberts' paper, with his notes completed in full, be referred to the Committee on Publication, and that the thanks of the Society be tendered him for the pains he has taken in the preparation of his paper.

The Secretary offered a programme for to morrow, which was adopted, when the meeting adjourned until to-morrow at 9 A. M.

Second Day—Morning Session.

The meeting was called to order at 9 o'clock A. M.

The President announced the following committees:

Obituary Committee—Charles J. O'Hagan, S. S. Satchwell, N. J. Pittman.

Committee on Nominations—Richard H. Lewis, R. S. Young, John McDonald, W. H. Whitehead, S. D. Booth.

Dr. Satchwell read a communication from Dr. Foote, expressing his regrets at his inability to be present at this meeting.

Dr. Wm. R. Wood said in regard to the University School that the majority of the committee seemed to be opposed to it, and the minority ask to make their report.

The President said it is customary to receive the majority report first, but as none of that part of the committee were present the minority were allowed to read their report, as follows:

Mr. President:—The committee appointed at the last session of this Convention to take into consideration the "advantages and feasibility" of establishing a Medical Department at the University of North Carolina, having given the matter the careful consideration and deliberate thought which they deem so important and far-reaching a subject merits and demands, have the honor to submit the following preamble and resolutions:

Whereas, The State of North Carolina has been stirred by the spirit of our time and by the demand of the people for better educational facilities, and has been steadily striving to furnish ample means for the best training that can be imparted in many branches of knowledge; and, whereas, no provision has hitherto been made for giving instruction in medicine, the noblest, and certainly one of the most important of the sciences, and but little has been done by the State to foster and elevate the profession in whose hands are the lives and health of the people; and, whereas, it will in our judgment be entirely practicable to establish in connection with the State University a Medical Department which shall give to students of medicine advantages equal to the best that can be given elsewhere, shall stimulate and elevate the profession, and so prove a blessing to the people, and pr ve to be an important step toward the complete intellectual development of the State; therefore

Resolved, That the establishment of a Medical Department in connection with the State Univetsity similar in character and design to the Medical Department of the University of Virginia, is a thing not only practicable, but on every account greatly to be desired.

Resolved, That a committee be appointed by this body to confer with the Trustees of the University of the State at their meeting, in reference to the establishment of such a department in that institution.

Resolved, That this committee be empowered to act conjointly with such committee as the Trustees of the University may think proper to appoint, for the purpose of bringing the subject matter of this report properly before the Legislature at its next session.

The President said no action could be taken until the majority report was heard, and it would have to lay on the table till that report came in. He thought their absence was due to a misunderstanding as to the time of meeting.

The Secretary read a communication from Dr. W. C. McDuffie regretting his inability to attend the meeting, and inviting the Society to meet in Fayetteville next year.

Dr. W. C. Murphy read the following :

"*To the President and members of the Medical Society of North Carolina:*

"Hearing that reports damaging to my personal and professional character were circulated at the last meeting of this Society in Durham, I respectfully ask that a committee of three physicians, members of this Society who reside in Pender county, be requested to procure and furnish to the Board of Censors any testimony bearing on said subject.

"Very respectfully,

"WALTER C. MURPHY."

Dr. Porter rose to make some remarks on it, but was ruled out of order by the President, who said he thought the communication of Dr. Murphy was going to take only a few moments, but if it were to be a matter for discussion it must come under the order of "New Business."

Dr. N. J. Pittman rose and said : "I propose to give a prize of $100 to be known as 'The Pittman Prize,' for the best essay on scientific medicine—to be original matter. The highest standard of excellence will be required, the *non de plume* and the real name of the contributor to be enclosed to the proper officer, and, after due investigation, the prize will be awarded to the successful competitor. He must be a member of the Medical Society of North Carolina—his residence it is not necessary to designate or to mention. If I am alive the prize will be promptly paid : if not alive—and life is one of the uncertainties of this world—the draft will be honored and paid promptly. Now, gentlemen, see what has evolved out of this little nucleus of thirty odd years ago in Raleigh, the

capital of our State. Nine—sacred number! What a fine body of men, in pursuit of science, charity, benevolence and all that comes from the human heart! There are three of us alive. Dr. Satchwell and myself are the only ones present, I believe. I am interested still in medicine, though retiring from its active practice for several years, now engaged in other pursuits, I think this comes very appropriately from me, as one of the founders of the Society."

Dr. O'Hagan said no doubt the Society had been deeply impressed with the kindly and generous feeling that had prompted our distinguished colleague to make the offer. Like the little nucleus which thirty years ago gathered together in Raleigh, it will be the beginning of greater things. He moved that the proposition of Dr. Pittman be received by this body, which motion was adopted by a rising vote.

The President called for the report of the committee on the establishment of a medical school in the University of North Carolina.

Dr. O'Hagan read the report of the committee, as follows:

"The undersigned, a portion of the committee appointed at the last meeting of the Society to report upon the resolution introduced by Dr. Wm. R. Wood, beg leave to respectfully offer the following report—that, in their opinion, there is no necessity for the addition of a Medical Department to the State University, and that at present the scheme is utterly impracticable. It is furthermore the opinion of the undersigned that neither the interests of the profession nor the public would be advanced by the establishment of such a department. In a word, that the interests of the profession and the public would be more enhanced by the support of a few good schools than by the establishment of many bad ones.

("Signed)

"C. J. O'Hagan,

"T. D. Haigh,

"H. T. Bahnson,

"J. Graham."

The matter was discussed at some length, Drs. O'Hagan, Pierce, McDonald, Roberts, Geo. W. Graham, Haigh and Bahnson opposing the measure, and Drs. W. R. Wood, A. G. Carr and Hays advocating it.

On motion the report of the committee was received.

The Committee on Credentials reported the names of Drs. Wm. H. Wood, Plymouth, and M. E. Robinson, Goldsboro'.

On motion of Dr. Bahnson, the gentlemen were invited to seats on the floor and to take part in the discussions.

Dr. Haigh extended the Society an invitation from the Cumberland Medical Society to meet next year in Fayetteville.

A motion to suspend the rules and accept the invitation was ruled out of order.

Dr. Ennett offered a resolution "That the thanks of the Society be tendered the President for his able and instructive address, and that a committee of three be appointed to embody the suggestions and recommendations of the President and present them to the Society.

The following committee was appointed: Drs. W. T. Ennett, Charles J. O'Hagan and R. H. Lewis.

Dr. O'Hagan, in introducing Drs. McGuire and Edwards, who were present as delegates to the Convention from the Virginia Medical Society, said: "Mr. President and gentlemen of the Society, when a Virginian sets his foot inside the lines of North Carolina he is always welcome. When a Virginia doctor, and especially such distinguished gentlemen as those whom I now have the honor of introducing to you, stands before us as the representative of the profession in his own State, he is doubly, trebly welcome. I deem it an honor not to be lightly valued that the State of Virginia in sending delegates to deliberate with us has sent us the best she had. Their reputation in the profession is known not only in this State and in their own, but throughout the United States and far beyond the seas. As the representative of the medical profession of the State of Virginia I take pleasure in introducing to you Drs. Hunter McGuire and Landon B. Edwards."

As Dr. McGuire arose he was greeted with rounds of applause, and then, in a short speech, told his embarrassment at the compliments which had been bestowed upon him, and expressed his appreciation of the hearty welcome which had been given him. He spoke of his acquaintance with, and admiration for, several North Carolina men—Ramseur, Hill, Grimes and others, and expressed his intention to enter, with the consent of the Society, into some of their discussions.

Dr. Edwards thought it scarcely necessary for him to be intro-

duced. He felt perfectly at home here, having visited this Society before. Then, to the amusement of those present, he stated the cause of Dr. McGuire's embarrassment—he had left his notes at his room.

The chair announced the following

Committee on Essayist—Drs. Rountree, Bahnson and Summerell.

Dr. George G. Thomas stated that two of the three members on the committee on prize essays were absent, and asked that some other gentlemen be appointed to act in their places. The chair appointed Drs. McDonald and Bahnson.

The next order of business was the reading of the annual essay, and the President, in calling for it, said it would be a matter for discussion, and he hoped the members would enter largely into the discussion.

Dr. R. S. Young, the regularly appointed essayist, then read an admirably prepared paper on "Artificial Alimentation," which was listened to with much interest by his large audience.

DISCUSSION.

The discussion was opened by Dr. Edwards, who said he had been very much pleased with the paper that had been read. He had long been of the opinion that we are making too much of a chemical laboratory of the stomach. We find chemists at work day after day inventing and discovering, as far as they can, agents capable of aiding solution and of assimilation. We should look at this thing from a practical standpoint—compare the human system to an engine, and remember that this is merely the fuel by which the engine is to be run. It is not necessary that we should always be studying and planning the kind of material to be used as fuel, but should seek such means of making that engine absorb and assimilate that fuel so as to produce the necessary steam. It is a demonstrable fact that patients cannot only be kept alive, but thrive for weeks upon food administered by the rectum. Dr. Robert Battey and following him others of like eminence had shown that injecta may be made to pass through the whole of the intestinal canal. He is satisfied that the great good to follow artificial alimentation was to secure rest for the stomach, when, from its morbid condition, it could no longer perform its functions. Then either the administration of food by the rectum or by the hypodermatic

method were valuable. He said that the introduction of food into the rectum must be done slowly and time be allowed the bowel to accustom itself to the new order of things—gradually increasing the amount to the full capacity of the bowel for accomplishing the new work set for it. He is satisfied of one thing in regard to this matter, that when we come to a case where we need stomach rest, we should let the stomach alone. And since we have other methods that are admirable, we will resort to those and let the stomach rest for the time being, by using the hypodermic method or else the rectal form, both of which have been so admirably done.

Dr. McGuire said ever since Dr. Battey, our celebrated Southern surgeon, demonstrated to the world the fact that you can inject a fluid through the rectum into the stomach (and it is a fact now well attested) rectal alimentation has become more and more important. Because, if that fact is true that you can send that fluid through the ileo-cœcal valve, you can introduce it into the small intestine. He thanked Dr. Young for his paper. It is an excellent one. It is true that the source of most diseases is found in the mal-assimilation of food. It is a more important subject to discuss than the germ theory—in which we are sailing along without rudder or compass. Many and many a time, he said, in prolonged surgical cases and in long-standing diseases, where the stomach was broken down and where assimilation was almost lost, has he kept the patient alive, for not days, but weeks, by simply introducing food into the bowels through a tube carried above the sigmoid flexure, and as far as possible above this point. The functional activity of the stomach was restored by the prolonged rest which this mode of administering food made possible, and the effects were wonderful. He saw, several years ago, the suggestion of the President of this Society of introducing cod-liver oil under the skin, and he embraced it at once. He does not care what the chemists say about the globule of oil being too large to be absorbed and introduced into the system in that way. He has seen time and again the good effects of this method of administering nutrition.

Dr. McDonald spoke of the necessity for great care in the election of the particular food and the necessity of having it artificially digested before being introduced into the rectum. Also the necessity of using the different methods conjointly—rectal, hypodermic and endermic. If the food is properly selected and properly prepared,

and it is introduced high up into the small intestine, and at the same time the surface covered or anointed with cod-liver oil, or even hog's-lard or various other preparations, he thinks life may frequently be prolonged until the stomach has sufficient rest to resume its duties.

Dr. Booth mentioned the advantage Dr. McGuire had in using his method in surgical cases, where he can place his patients in the knee-chest position for administering nutrient enemata, over physicians whose patients are often so weak they cannot be turned about. He said some physicians have the idea that it is better to throw the liquid high up into the colon, that it is more readily retained. He thinks that as the colon is the receptacle for putrid débris, no food has any business there. Stop it in the rectum or throw it into the small intestine. If we throw it into the colon it is absorbed very slowly and by the action of the bowels is returned almost in the same condition in which it was introduced. He recommended that the injection be very slowly performed. He mentioned the case of a child who had an attack of erysipelas following one of malarial fever. He wanted to give quinine and nourishment at the same time. Instead of lard, at the mother's suggestion he used neat's-foot oil with the quinine, and these two with the food, which he administered rectally. The little patient began to gain strength rapidly. In a case very similar he used vaseline with the quinine, and found that the quinine was not absorbed. He mentioned this to show the necessity of using animal oils.

Dr. McGuire thought in giving the alimentation by the rectum it was hard to conceive of a patient so weak as not to be placed in knee-chest position. In referring to the discharge of the fluid from the rectum as soon as the syringe has been removed, he said it will be remembered when the desire for a natural stool is resisted, after awhile the desire passes away. After this fluid is introduced into the rectum, and you tell the patient he must retain it, the effort to carry out the instruction induces retro-peristalsis. How far the food goes back he does not know, but he knows it goes far enough to give the patient some nourishment.

Dr. O'Hagan thought artificial alimentation of great advantage in certain classes of cases, and it is more especially desirable to practice it in that class of diseases of the intestinal canal which occurs in the infant population during the summer months; the source of which diseases in children is defective alimentation. It was formerly sought to control the morbid condition by medication.

He thought that the culinary art and the medical art should go together, side by side—one cannot get along without the other. He alluded to the importance of perfect rest of mind and body in overworked business men. He said we live too fast; we work too much. Our haste to get rich has deprived us of many of the pleasures of a more natural life. When the time comes when we need artificial food it is well to know what substance to apply. If you can introduce a substance already digested, you have but one work for the stomach to do—simply to receive it.

Dr. Payne, Jr., said: "After all that has been said, and so ably said, it would seem that little could be added germain to the subject of artificial alimentation. I cannot forbear, however, thanking Dr. Young for his able presentation of the subject, and I trust I may be pardoned if I briefly add the tithe of a tyro's experience. My attention of late has been especially directed to the indigestion of infancy and early childhood, and I am satisfied, after careful and extended observation, that in the vast majority of cases indigestion at this tender age is intestinal rather than stomachic; in other words, the difficulty is experienced in the digestion of saccharine, starchy and oily foods, rather than in the digestion of the nitrogenous elements. Starch and sugar, instead of being transformed into glucose, undergo fermentation, and the oily matters, instead of being emulsified and absorbed, are split up into butyric and other fatty acids, which act as irritants. The symptoms which these little sufferers present are something as follows: the tongue is coated with a white fur, through which the papillæ show as red irritated points aggregated about the tip of the organ; there are acid eructations; foul smelling and acid breath; the stools are pasty and too light in color; constipation alternates with diarrhœa; colicy pains are complained of; the sleep is disturbed and the nervous manifestations are often so intense as to lead to grave suspicion lest they mark the approach of that insidious foe, tubercular meningitis. Nothing is more common than to see these symptoms mistaken for those produced by intestinal parasites and the little sufferer dosed with all manner of nauseous vermifuges without other effect than that of adding further to the already existing disturbance. In these cases I have seen the most remarkable results follow attention to the dietary. I have seen these little patients emaciated to the last degree, with prominent abdomens and parchment-like skins

quickly assume the rosy hue of health, when I have ordered that all medication, as implied in the administration of drugs, be discontinued; that saccharine foods be excluded from the dietary, and that starchy foods be reduced to a minimum, while their transformation into glucose be insured by the administration, preferably during meals, of one of the preparations of malt. The preparation of malt, which I have found most generally useful, is the maltino wine with pepsin and pancreatin of Messrs. Reed & Carnrick, and I wish to make it clear that this maltine is not given as in any sense a food, but simply as a ferment, capable of transforming starch into glucose, and thus nature is aided in bringing about those changes which for the time being she is inadequate to accomplish. In conjunction with this plan of treatment, instead of taxing the stomach, or rather I should have said the intestine with the digestion of the necessary fat, I constantly recommend the inunction of cod-liver oil. This prescription is very distasteful to most parents and nurses, but if you will only try it faithfully in a few cases I am satisfied that you will be so well pleased with your results as to feel the necessity of insisting upon its faithful performance. In all of the wasting diseases of childhood I constantly recommend that at least one ounce, if possible more, of the best cod-liver oil be thoroughly rubbed into the body of the child once or thrice daily, the oil being most freely applied about the flexures of the joints, the inner surface of the thigh and the abdominal surface, which points seem to possess the greatest absorbing power. Much good seems often to be attained by placing the little patient in a bath of the oil while the inunction is being performed and an occasional warm bath just prior to the inunction, will greatly enhance the absorbent action of the skin. This method of treatment, gentlemen, will give remarkably good results in these cases, and I am so well satisfied of the great value of cod-liver oil inunctions that I think it very questionable whether the phthisical adult ought ever to have his enfeebled digestion taxed by its exhibition *per orem*, when every attainable good will result from inunction. I might cite case after case to illustrate the value of this dietetic management of the indigestion of early childhood, but these brief remarks will suffice to show the faith that is in me, and I trust may lead others to make a fair test of the methods indicated."

Dr. Edwards said in giving cod-liver oil he thought the best

results followed in changing the form occasionally. The necessity for this change was illustrated in the good effects often following a change of diet. Change your form of cod-liver oil as often as you find your first form disagrees with your patient.

President Graham said that he wished to explain what Dr. Young so kindly said as to his claims to originality of the hypodermatic use of cod-liver oil. The only claim he makes is that the use of it was suggested to him by the condition of his first case about twelve or thirteen years ago, not having heard or read of any such previous use of it. He also desired in connection with the subject of "Artificial Alimentation" to state that the late Dr. E. C. Alexander, of Charlotte, N. C., was kept alive and in good nutritive condition (about five or six years since) for the extraordinary time of sixteen months and sixteen days, entirely by means of food and drink introduced into the stomach through a stomach-pump. After the first introduction the instrument was used by the patient and his family without aid from any physician.

On motion, Dr. Young's essay was referred to the Committee on Publication.

The time for the conjoint session with the North Carolina Board of Health having arrived, President Graham invited Dr. J. W. Jones, President of the Board, to a seat on the rostrum, when the

CONJOINT SESSION

of the North Carolina Board of Health and the Medical Society of North Carolina was called to order by President Jones, who read his report as follows:

Gentlemen of the Medical Society and State Board of Health:-

From time to time and little by little, we have gotten the ports of the North Carolina Board of Health together. We occupy it. It is in motion. Its capacity is sufficient. Its power is enough. It is equipped by the State. It has the support and sympathy of our faithful Christian Governor. To-day we proudly walk its quarter-deck under the highest inspiration that man knows, "Good will to men."

The North Carolina Board of Health, organized and equipped in all its departments, with a monthly "Bulletin of Health," through which we may communicate, correspond and instruct, unites in onjoint session with the North Carolina Medical Society, to ex-

change views and propose plans that shall best advance our common work of making our people healthier, happier, wealthier and wiser.

While we thank you for the hearty aid and sympathy heretofore given, the Board of Health now bespeak your coöperation in our labors, without which our work at this stage must come to a standstill, and our noble ship of health, so grandly equipped, must remain in port or go to the beach. Permit us to suggest and insist that you organize at home into health organizations, county medical societies and county boards of health, to better instruct the people, collect all statistics and facts that may in any way aid in the study of causation and prevention of disease.

The first issue of the "Bulletin" of the North Carolina Board of Health is before you. We consider it a necessity to the successful work of the Board and the best means of getting and giving information. It is a medium of communication with our Governors Legislature, the people, the doctors and sanitary workers all over the world. It will go out as a monthly messenger of glad tidings, with healing in its wings, with words of truth and notes of cheer, or sounds of alarm if danger comes nigh.

To the circulation of the "Bulletin" and to its proper and discreet management, we look for the greatest good to the health department of the State. We commend it to your hearty sympathy and substantial support, and invite your contributions to its columns.

It has been the custom of the Secretary of the Board of Health to make a report to this body at our annual meetings. We are all pained and disappointed that this report cannot be made owing to the sickness of our Secretary, Dr. Thomas F. Wood. For the whole Board and the North Carolina Medical Society, we would give expression of our deepest sympathy for our brother and efficient and faithful Secretary.

We now enter upon the work of the conjoint session, and beg a free expression of opinion and a full interchange of views.

The President stated, in the absence of Dr. Wood, he could give only a very brief outline of the work of the State Board of Health. It is the intention of the Board, in the future, to publish a monthly bulletin, which will contain a synopsis of the reports of the county superintendents of health, with such other facts relative to the health of the State and hints regarding sanitary

matters as they may be able to collect. The work of the past year was mainly that of reforming the line of battle which, for want of the strengthening fibers of an appropriation, had gone to pieces. Forty-three counties have rallied to the call to arms, with the good work still going on, and the Board hopes, from the effects of the "Bulletin" circulating among the physicians (and any physician may become a subscriber by simply sending his name to the Secretary). and stimulating them into keeping pace with their working neighbors, for s ill better things this year.

Prof. Simmons being asked by the President to let the Society know what he had done in his department, said he had been requested by the Board to secure weather reports from different sections of the State and to prepare a paper on "Illuminating oils." In the matter of the former he had established a voluntary observatory at Wake Forest. Besides that, he has been receiving, through the courtesy of Gen. Hazen, reports from four points on the coast, two in the central and one in the western portion of the State ; also from Lynchburg, Virginia, and from Knoxville, Tennessee. The last two correspond very nearly with the weather in the mountainous parts of our State. These he had published in the "Bulletin." As to the latter part of his work—that of illuminating oils—he has not done all he wished, but the work is still in progress, and he thought best not to make his report at this meeting. He presented some memoranda showing the kinds of oils that are used in the State. The analyses were made with the "Tester," in accordance with the rules of the New York State Board of Health. The tests were made mainly to ascertain the danger in the oils now in use.

It will be seen that 5 out of the twelve "flash" below 100° F. He considered any remarks unnecessary.

Dr. Geo. G. Thomas thanked Prof. Simmons for his work, but said the portion of it which interests the people of the State is to know which the "high grade" oils are. The main purpose of the Board of Health is to preserve the people from danger, and the oils of low grade are very dangerous, and he would like Prof. Simmons to tell which are the best oils, that is, which are the safe oils, according to "the flash test."

Dr. Graham thought by informing the people of the danger of the "low-grade" oils the sale of that grade will be diminished, and in that way the manufacturers will be induced to furnish only the best grades.

Prof. Simmons said he got the samples of oil used from the merchants in his town and they were making issue with the manufacturers. The highest had the name of "Security Oil," but three or four had the same name, while the "flashing point" varied very much, sometimes as much as 12°.

Dr. Pierce—Are those which "flash" below 100° unsafe?

Prof. Simmons—Decidedly unsafe.

Dr Pierce—How low can the "flashing point" be and the oil be safe?

Prof. Simmons—I would place the limit from 110° to 115°, perhaps at 112°.

Dr. Haigh thought the only way to remedy the evil resulting from the sale of low grades of oil is by reaching the manufacturers. Give the names of these manufacturers with the oil they sell and the "flashing points." This will have the effect of making the merchant who retails the oil insist that the manufacturer shall furnish him a safe quality of oil.

Dr. George Graham moved that the name of these oils and their "flashing points," with the names of the manufacturers, be published with the proceedings of the Board of Health.

President Jones explained that Prof. Simmons' reasons for asking for further time was not because the Board of Health was at all disinclined to publish these names, but the Professor, for want of time, had not completed his report, as he wished, and thought it better, that the whole should be published at one time.

Dr. Graham, on hearing this explanation, withdrew his motion.

Dr. McDonald, member of the Board of Health, said it was a very important question we had under discussion, but he could see no good in publishing the names of these manufacturers unless we could exclude their "low-grade" oils in future. It was a matter of great importance to the citizens of North Carolina, as inferior oils are very dangerous. There are subjects, however, of greater importance, even, than that of illuminating oils—the adulteration of foods, drugs, etc. The dishonest manufacturer often stands between the physician and his patient.

The President said that questions of that kind would appear in the "Bulletin" from time to time, as they came to the notice of the Board, and he hoped the profession would assist the Board by contributions on such subjects as may come to their attention

On motion of Dr. Roberts, further time was allowed Prof. Simmons for the completion of his report.

Dr. Satchwell offered the following resolution :

WHEREAS, The proverbial neglect of our people, especially in the east, in the way of good drinking-water, and its importance in relation to health cannot well be over-estimated; therefore,

Resolved, That the State Board of Health are hereby requested to prepare, at an early day, a paper upon this subject, to be spread broadcast over the State, through the public press and otherwise, setting forth its importance—the advantages of good cistern water, and giving a detailed statement of the proper methods of constructing cheap and effective cisterns.

The importance of this matter, and of informing people thereof, was discussed by several members.

Mr. Winslow, civil engineer of the Board, thought the best method of getting at the water supply in the State is to institute a sanitary survey of the State. He thought in that way we could gather a great many valuable facts which would place us in a position to give information to the people of any special locality, and induce them to improve their water supply.

Dr. Satchwell concurred with Mr. Winslow, but thought also that an occasional timely article would do a great deal of good.

Dr. McDonald said this subject came up before the regular meeting of the Board of Health the preceding day. It was thoroughly discussed, and the very act embodied in Dr. Satchwell's resolution was determined on for proper action, and the results will be published ; however, he was glad to have the matter further discussed in conjoint session.

Dr. Haigh asked if it was the business of the State chemist to analyze all water sent to him. He thought individuals would not be willing to stand the expense of having a sample of water analyzed for the benefit of the whole community. He thought the State Board should make some provision for paying the expense of transportation of such samples of water.

It was explained by the President that a permit could be obtained by any one from the Secretary of the State Board at Wilmington, on the presentation of which to the State chemist he would make analyses of the samples of water described therein and return a copy of those analyses to the person sending it. Directions for preparing and sending samples of water will be found on the permit, which also states

that the party sending it must pay express charges, as the Board of Health could not afford it.

Dr. Richard H. Lewis having been appointed at the Durham meeting to prepare a paper on "The Care of the Eyes and Ears in Children," entertained the Society for nearly an hour with an excellent paper on that subject, written for the information of the people, and so skillfully prepared that, while not slighting in the least any essential, it will be readily understood by persons of any intelligence whatever. (See Appendix.)

Dr. Haigh thanked Dr. Lewis for his very useful and practical paper, and especially that part referring to school children. He thought of all the oppressed classes in our community school children are the worst abused, and it would be a good plan to place this paper in the hands of every school teacher in the State.

Dr. George Thomas added his thanks, and said: "Our friend has the happiest faculty of discussing technical subjects in a plain way of any person I ever knew. The directions embodied in the paper for the proper lighting of school-houses are of the first importance, and should be sent to principals of all private schools and to the School Commissioners throughout the State."

Dr. Pierce expressed his thanks, and hoped the paper would be published either in the "Transactions" of the Society or by the State Board of Health.

On motion of Dr. Hays, the paper was referred to the Committee on Publication.

Dr. McDonald made a motion, which was carried, that the Board of Health have 20,000 copies of Dr. Lewis' paper struck off, in pamphlet form, for distribution throughout the State.

President Jones explained what is necessary to the organization of local boards of health, and enjoined upon the members the necessity for these organizations.

Reports of county superintendents of health were called for, and for Rowan county Dr. Summerell replied that a local board had been formed under the new law, but the physicians take but little interest in it—making no report of epidemics or serious sicknesses—hence his report to the Secretary is meagre. His efforts towards the improvement of the county jail and poor-house had met with only unfulfilled promises. He complained that, as Superintendent, he had been called on to treat a long and troublesome case in the person of a prisoner in

the jail, and that the county had been willing to give him only a small fee for his services. He hoped some relief might be devised for such cases. The necessity for a law compelling physicians to report contagious or infectious diseases was evident, and statistical information would be wanting until such a statute was enacted.

De. Pierce, speaking for Halifax county, said he agreed with Dr. Summerell, that reports of diseases should be obligatory both upon the physicians to send them to the county superintendent and upon him to forward them to the Secretary.

The President explained the defect in the law, which did not compel physicians to report deaths, but he hoped that this would be remedied.

Dr. Summerell thought we could make no advance in the matter of vital statistics until we have a compulsory law.

There being no further business before the house, the conjoint session was declared adjourned.

The Committee on Credentials reported on the name of Dr. E. Porter, delegate from Pender County Medical Society.

Adjourned to meet at 3½ o'clock P. M.

Second Day—Afternoon Session.

The meeting was called to order at 3½ o'clock.

Dr. Charles Duffy exhibited a child, whose left foot and leg had been severely burned. He had been compelled to use the knife very extensively in order to overcome the deformity resulting from the cicatrices. This case shows the advantages to be derived from persistent training system of treating muscular contractions.

The Committee on Essayist made the following report:

"The Committee appointed to select an Essayist for the next annual meeting, beg leave to present the name of Dr. George G. Thomas, of Wilmington, N. C.

"J. J. Summerell,
"H. T. Bahnson,
"W. D. Hilliard,
"Committee."

The following committee to prescribe rules for awarding the "Pittman Prize" was appointed: Drs. H. T. Bahnson, A. B. Pierce and W. D. Hilliard.

A communication from the Woman's Christian Temperance Union, requesting the State Society to abolish the use of alcoholic medicine from their practice, was read.

Dr. Bahnson said he considered it a direct insult to the medical profession of North Carolina to have a communication of this kind presented to it, and moved that it be laid on the table, which motion was carried.

The report of the chairman of the section on Practice of Medicine was called for, but the gentleman was absent.

The chairman of the section on Materia Medica was also absent.

On motion of Dr. Haigh, these reports were referred to the Committee on Publication.

A communication relative to the practicing of medicine contrary to law was declared out of order, the President regarding it as a matter for the grand juries to decide.

Dr. S. D. Booth exhibited an instrument for the application of powdered drugs to the cervical canal and internal surface of the womb. The invention was his own, and he read a paper explaining the use of it.

Dr. Bahnson made some remarks on the subject, and asked various questions regarding it, which were answered satisfactorily by Dr. Booth.

Dr. Booth intended his paper for a prize essay, but waived his right to a prize, preferring to present his instrument before the Society. His paper was referred to the Publication Committee.

Dr. Bahnson made further remarks on Dr. Booth's paper, and was followed by Drs. McGuire and W. J. Jones.

The Committee on Credentials reported on the names of Drs. Martin H. Harper, Harpers, and H. H. Harris, Wake Forest.

On motion, the report was received.

Dr. Murphy withdrew his resolution offered at the morning session, and moved that a committee of three be appointed to act with the Board of Censors in investigating the matter of his complaint.

The motion was seconded by Dr. Porter, who proceeded to make some remarks on it, but was interrupted by Dr. Haigh, who rose to a point of order. He said he was not aware that there was any charge against any gentleman ; if there was an appeal should be made to the Board of Censors.

The chair ruled that any complaint must come through the Board

of Censors, and cited Section 4 of Article IV of the Constitution to sustain his opinion. He said that was his opinion in the matter, and he would have to declare the motion out of order. He reminded the gentleman that he had the right of appeal to the house from the chair's decision.

Dr. Porter appealed from the ruling of the President, and upon its reference to the meeting the point made, that the whole matter, both the resolution and the remarks upon it, were out of order, was sustained.

Dr. Bahnson rose and said: "We have a gentleman in the house for whom every one must entertain the highest respect as well as regard. We have, I believe, only four honorary members of our Society. I move that we confer upon Dr. Hunter McGuire the credentials of honorary membership in the North Carolina Medical Society."

The motion was carried by a rising vote.

Dr. McGuire said he could only thank the Society for the honor they had done him—one which he valued very highly. He said he was embarassed even more than he was this morning, and it would be a work of supererogation for him to say he could not speak, but he felt the honor from his heart and appreciated it greatly.

The Committee on Nominations made the following report, which was accepted.

President—H. T. Bahnson, Salem.

Vice-Presidents—G. G. Smith. Concord; J. L. Nicholson, Richlands; C. M. Poole, Salisbury; H. B. Ferguson, Halifax.

Secretary—Dr. Julian M. Baker, Tarborough.

Treasurer—Dr. R. L. Payne, Jr., Lexington.

Orator—Dr. J. M. Hays, Oxford.

Committee on Publication—Drs. Thomas F. Wood, Wilmington; George G. Thomas, Wilmington; W. T. Ennett, Burgaw; J. M. Baker, Tarborough.

Board of Censors—Drs. W. J. Love, George G. Thomas, W. W. Lane, Wilmington.

Delegates to the American Medical Association—Drs. A. B. Pierce, Weldon; C. J. O'Hagan, Greenville; N. J. Pittman, Tarborough; S. D. Booth, Oxford; John H. Tucker, Henderson; W. D. Hilliard, Asheville; A. G. Carr, Durham; J. W. McNeill, Fayetteville; F. M. Garrett, All Healing Springs; Eugene Grissom, Raleigh; Henry Tull, Kinston; E. H. Hornaday, Willow Green.

Delegates to the Virginia Medical Society—Drs. W. T. Cheatham, Henderson; P. L. Murphy, Morganton; S. S. Satchwell, Rocky Point.

Delegates to the South Carolina Medical Society—Drs. George W. Graham, Charlotte; Charles Duffy, New Bern; D. M. Pattison, Mangum.

Dr. R. H. Lewis read the following report of the Committee on the President's Message:

"We, the undersigned committee appointed to consider the address of the President of the Society, and the suggestions therein made, and make report on the same to this body, respectfully recommend as follows:

First—With regard to clause of open debate, the committee say, that the President of the Society shall, within three months after each annual meeting, appoint from the Society one or more members, who shall be known as "leaders of debate" in the meeting so following their appointment. Their appointment shall be made known directly from the President; that within thirty days from the said appointment, the leaders of debate so selected shall notify the Secretary of the Society of the subject chosen by him, whereupon the Secretary shall at once notify, by proper means, each member of the subject to be discussed and the names of the leaders of debate of said subjects; that the subject so chosen shall be discussed in open debate, under the ordinary rules, the leader opening the discussion and having the right to the conclusion of the argument.

Second—Regarding the deliberations of the Nominating Committee, that it is the sense of the Society that the deliberations of the Nominating Committee shall be both private and confidential. All matters reported to said committee and all discussions in the body of said committee shall be thus held and considered by the members thereof; that said committee shall make report to the Society of such matters as they may have in charge, or deem expedient in said report, using a proper and just discretion to maintain the secret and confidential character of the deliberations of this committee. The committee would say that no extended remarks are wanted to impress upon the brethren the importance of this suggestion, on which the life and honorable character of the Society depends.

Regarding the suggestions of the excellent and instructive address on which we are called upon to report, their value is well known to the Society, but this committee recommends that the Secretary be requested to write to a leading practitioner in each county which has no medical society and endeavor to interest him in the formation of such county organizations.

"All of which is most respectfully reported.

"W. T. Ennett,
"R. H. Lewis."

On motion the report was adopted.

The President said that the physicians of Charlotte would be glad to have the Society meet there next year.

Dr. Booth moved that the invitation of the President be accepted, and that the Society meet next year in Charlotte.

Dr. Haigh renewed his invitation, and would consent to meet in Charlotte in 1887 only on agreement to meet in Fayetteville the year following.

Dr. Booth's motion prevailed.

The President asked if anything was to be done about changing the time of meeting.

Dr. Murphy moved that the time be made the third Tuesday in May.

Dr. Lewis thought as most of the young physicians graduated in March, the Society should give them as early an opportunity as possible to comply with the laws of the State. As it is, they have to wait in idleness about two months and a half, or violate the law by practising without a license.

After considerable discussion concerning the advisability and legality of changing the time of meeting, on motion of Dr. Roberts the motion was laid on the table to be taken up at the evening session under the head of "New Business."

The President thanked the Society for the favor done the Charlotte profession by selecting it as the next place of meeting.

Adjourned until 8½ P. M.

Second Day—Evening Session.

The meeting was called to order by the President, and Dr. Geo. W. Long, of Graham, delivered the annual oration. It was short,

spicy and replete with sound doctrine, and was attentively listened to and appreciated by his large audience, among which was a goodly number of ladies.

On motion of Dr. Picöt, it was referred to the Publication Committee.

Dr. McDonald moved, as there was but very little work left to do, that the business be completed to-night, as many members desired to go on the excursion to-morrow.

It was objected to on the ground that there were members present who had gone to considerable expense and trouble to bring some specimens which they wished to exhibit, and which they could not present if the meeting closes to-night.

Dr. McDonald withdrew his motion.

The matter of changing the time of meeting was brought up as unfinished business from the afternoon session, and, after considerable discussion, an earlier opportunity for new graduates to obtain their licenses was considered just cause for changing the time of the next meeting to the second Wednesday in April.

The Committee on Prize Essays made the following report, which was adopted:

"*To the President and members of the North Carolina Medical Society:*

"GENTLEMEN:—Your Committee on the Prize Essays, after careful consideration of the papers presented to this session of the Society, have decided not to award the prizes to any of the competitors, but beg leave to suggest that, to attain the high standard for these essays which we judge it is the aim of the Society to accomplish, it shall offer $50 each for the best original essay that shall be presented at the session of 1887 on Surgery, Gynæcology and Obstetrics, and Practice of Medicine.

"The Committee shall have the power to reject all essays. If the prize shall be awarded in any one, or all of the branches of medicine indicated above, the successful essay or essays shall be presented to the Society for publication.

"All essays must be sent to one of the members of the Committee not later than *four weeks* immediately preceding the next session of the Society. They must be written over a *nom de plume*, and accompanied by a sealed envelope containing the name of the

author, the *nom de plume* being written on the back of the same envelope.

"GEO. GILLETT THOMAS,
"JNO. MCDONALD,
"H. T. BAHNSON,
"Committee."

The President stated that there was a mistake made in appointing the committee on the "Pittman Prize," he having appointed only three, when the resolution was for five, and the President to constitute one. He appointed Dr. Ennett, who, with the President, increased the committee to five.

Dr. Pierce presented the report of the above committee, as follows:

"The committee appointed to take into consideration the rules and regulations governing the "Pittman Prize," beg leave to submit the following report:

"A prize of $100 is offered for the best original article on some scientific subject connected with medicine. The highest standard of excellence will be required to win, leaving the subject matter to parties competing. The article must be written over a *nom de plume*, with the name of the contributor, in a sealed envelope, marked with the *nom de plume*, and it shall be forwarded to the committee at least four weeks before the next meeting of the Society. Open to all members of the North Carolina State Medical Society.

"Very respectfully submitted,

"A. B. PIERCE,
"JOS. GRAHAM,
"H. T. BAHNSON,
"W. T. ENNETT,
"W. D. HILLIARD."

The report was accepted.

On motion of Dr. Payne, Jr., the meeting voted to pay the *phonographer* $15 for his services.

The chair appointed Drs. R. H. Lewis, W. J. Jones and John McDonald a committee on "Prize Essays" for the next meeting.

A motion to publish the Code of Ethics with the proceedings of this meeting, made by Dr. Dunn, was carried.

The President announced as constituting the committee to award

the "Pittman Prize" Drs. Charles Duffy, A. B. Pierce and W. T. Cheatham.

Adjourned until 3 o'clock P. M. Friday.

Third Day.

At 9:30 o'clock, in pursuance of the programme laid out the first day, many members of the Society and quite a number of citizens embarked on the elegant steamer Shenandoah for an excursion under the auspices of the Board of Trade and Cotton Exchange, given in honor of the Medical Society. The steamer made a run of about 20 miles down the Neuse river, and then, with the regret of all aboard that the trip was half over, turned her prow homeward. On the return trip an impromptu meeting was held in the main cabin, with President Graham in the chair and Dr. Bahnson as Secretary.

Dr. Bahnson, in explaining the object of the meeting, said:

Mr. President and Gentlemen of the North Carolina Medical Society:—You have imposed upon me a pleasant task; it is to express the heartfelt thanks of the members of this Society for the warm welcome, generous hospitality and courteous attention extended to us by the citizens of New Bern. We wish them to be assured of our appreciation of their kindness. We shall carry away with us to our homes the most delightful recollections of their town and its people. I move the adoption of the following resolutions:

1st. That the thanks of the Society are due to its New Bern members for their invitation to visit this beautiful city, so important and interesting in the history of the State.

2d. That our unstinted gratitude is hereby tendered to the citizens of New Bern for the hearty welcome and generous hospitality with which they have seconded the invitation of their medical representatives.

3d. That we shall hold ourselves under lasting obligations for the countless civilities received by us from members of kindred professions, representatives of the press and commercial bodies, railroad and steamboat officials and all others who, in either a public or private capacity, have contributed to the pleasure and interest of this memorable occasion.

4th. That a copy of these resolutions be spread upon the minutes of the Society.

The resolutions were unanimously adopted, being seconded by Dr. McDonald in an enthusiastic and appropriate speech, in which he mentioned the fact that the President and himself were both natives of New Bern, and, he believed, born in the same house.

Mr. F. M. Simmons being called for, responded in a neat speech in behalf of the Cotton and Grain Exchange, the Board of Trade, the O. D. S. S. Co. and the citizens of New Bern.

The New Bern Cornet Band added much to the enjoyment of the trip with their delightful music. Among the most pleasant incidents connected with the excursion was the rendition of a few popular songs, in a most charming manner, by a chorus of fair singers.

At 1 : 30 o'clock the steamer drew up to her moorings, the lines were made fast and the passengers reluctantly stepped ashore.

Third Day—Afternoon Session.

The meeting was called to order at 3 o'clock.

On motion of Dr. Young, Drs. Geo. W. Graham, J. P. McCombs, S. B. Jones, R. H. Gibbons and H. M. Wilder were appointed a committee of arrangements for the next annual meeting to be held in Charlotte.

The chair announced that the hour for the installation of officers had arrived, and appointed Drs. McDonald and Smith to conduct the President to the chair.

Dr. Jos. Graham, the retiring President, surrendered the gavel to Dr. Bahnson in an appropriate speech, thanking the members of the Society for the courtesies and coöperation he had met with at their hands.

Dr. Bahnson in taking the chair expressed his deep sense of the honor conferred upon him, and of the important duties attending his office. The former would always receive his most hearty appreciation and the latter his most zealous efforts to perform faithfully.

Dr. W. L. Crump reported a case of twins with separate placenta for each and a distinct set of membranes for each placenta. He was requested to prepare a paper descriptive of the case to be referred to the Committee on Publication.

Dr. Henry B. Furgerson, being absent, exhibited to the Society

through the Secretary a urinary calculus weighing two ounces which was passed through the urethra without operation. He having sent no description of the manner in which it was removed, Dr. McDonald moved that the Secretary request Dr. Furgerson to write a description of the details for publication in the "Transactions." In pursuance of the request he sent the following paper:

"About eighteen months ago I was called to attend a patient about sixty years old. She had suffered severely from cystitis, and there were found deposits of uric acid and phosphates, with large accumulation of mucus in the urine. Liq. potassæ, lithia and buchu were exhibited and hydrastis canadensis used as injection. This treatment gave considerable relief. Not thinking it an aggravated case of stone, upon recurrence of symptoms I directed the same treatment. In a short while I was called to see the patient. There was considerable distention about the region of the bladder, and urine was not voided in 30 hours. In effort to introduce catheter I found obstruction in the meatus urenaris that proved to be a stone weighing two ounces and as large as a medium hen-egg. It was composed of phosphates with strata of uric acid. By the slightest effort with forceps the stone was taken from the meatus.

"Upon reference to authorities I am opinion there is no instance upon record of as large a stone as this taken from the female urethra by a natural process of dilatation.

"The patient has entirely recovered.

"Very respectfully,

"HENRY B. FURGERSON."

Dr. Payne, Jr., presented a paper describing a case of peculiar menstruation during pregnancy, which was referred to the Publication Committee.

Dr. Joseph Graham thanked Dr. Payne for bringing up these clinical reports, as such reports are of more interest to the Society than any long reports culled from our text-books.

The President urged the members of the Society, and especially the younger ones, to make their cases of interest known to the Society.

Dr. Baker reported a case of injury to the brain of 27 years standing operated on successfully. The patient has died since with a disease entirely distinct from the lesion left by the original injury.

He was requested to prepare a paper descriptive of the case for publication in the "Transactions."

Dr. Baker presented a paper from Dr. Thomas F. Wood, entitled "The Terebinthenates—Especially Some of the New Chemical Products from Oil of Turpentine," which Dr. Wood asked to have read by title. He was interrupted in its preparation by an attack of sickness, but hoped to finish it in time for the "Transactions."

Dr. Wood's paper was referred to the Publication Committee.

Dr. Joseph Graham reported an operation for mammary cancer, involving also the glands of the axilla. The only promise held out to patients with such wide extension of the disease as in this case, was a likelihood of prolonging life and lessening suffering, without certain hope of cure. The feature of the operation which he wished to call attention to was the aseptic condition of the wound accomplished without the burdensome details of extreme Listerism. Cleanliness is, he thinks, at last the great principle to be observed, and the use of the bichloride solution and other antiseptic medicines insured clean hands as well as clean wound, by destroying the ferments on the hands of the operator. The line of incision extended from the axilla to the ensiform cartilage, about eleven inches in length, with an additional elliptical incision to include the mammary gland. This gland had to be torn out by force, as he only used the scalpel when he could not avoid it. The cavity was sponged out with bichloride solution 1 to 2,000; all oozing was checked and the incision closely united by sutures, which, with the necessary ligatures, had been soaked with the bichloride. A cotton pad, wet with the antiseptic fluid, was put over the wound, and a dry piece over this, all followed by a bandage. The dressing was removed on the seventh day and the union was complete, without any suppuration. The patient recovered without a bad symptom.

Dr. Poole mentioned an experience in cutting out an old cancer of the breast where he had a complete union by first intention and used no antiseptic whatever. Washed out the wound with clean water and applied carbolic acid and sweet oil.

In reply to inquiries made by Dr. Graham as to the disturbance afterward, said he did not look at the wound for a week, and then it was solid, with no tendency to open. There was no suppuration, even around the ligatures.

Dr. Payne, Jr., said this shows us how much depends on cleanliness in surgery; he thought it the main thing.

The President announced the following chairmen of sections for the next meeting:

Practice of Medicine—Dr. Isaac N. Taylor, China Grove.

Surgery—Dr. Frank Brown, Greenville.

Medical Jurisprudence—Dr. Sion Rogers, Raleigh.

Pathology and Microscopy—Dr. D. T. Tayloe, Washington.

Obstetrics and Gynæcology—Dr. E. M. Littlejohn, Thomasville.

Materia Medica and Therapeutics—Dr. W. L. Crump, South River.

Diseases of Children—Dr. L. W. Battle, Durham.

Dr. Young was first appointed on the section of Obstetrics and Gynæcology, but asked to be relieved, as he had been before the Society at the last two meetings, and suggested the name of Dr. Littlejohn in his stead.

The President said his reason for appointing Dr. Young again was because of his having served the Society so satisfactorily on those former occasions. However, Dr. Young insisting, he would appoint Dr. Littlejohn on condition that if he did not turn up at next meeting with a good paper, Dr. Young would stand the blame.

The roll was called again, and the meeting adjourned to meet in Charlotte on the second Wednesday in April, 1887.

REPORT OF THE BOARD OF MEDICAL EXAMINERS.

OFFICE SECRETARY BOARD OF MEDICAL EXAMINERS,
WILMINGTON, N. C., June 17, 1886.

At the regular annual meeting of the Board of Medical Examiners, which convened in New Bern May 18th, 1886, *et seq.*, the following applicants, after a thorough examination, were licensed to practice medicine in conformity with the laws of North Carolina:

Dr. James M. Boy Ette, Little River Academy, Cumberland county.

" S. Hassell, Columbia, Tyrrell co.

" D. B. Zollicoffer, Garysburg, Northampton co.

" J. A. Faison, Mt. Olive, Wayne co.

" J. R. Rogers, Apex, Wake co.

" J. L. Moore, Weldon, Halifax co.

" T. J. Phillips, Dalton, Stoks co.

Dr. J. H. Powell, Castoria, Green co.
" G. W. Kernodle, Morton's Store, Alamance co.
" A. L. Petree, Winston, Forsythe co.
" J. J. L. McCullers, Raleigh, Wake co.
" F. T. Foard, Newton, Catawba co.
" H. T. Chapin, Pittsboro', Chatham co.
" L. B. Young, Rolesville, Wake co.
" K. M. Clark, Kittrells, Vance co.
" G. A. Ramseur, Maiden, Catawba co.
" Wm. H. Ward, Plymouth, Washington co.
" J. G. Riddick, Raleigh, Wake co.
" Thomas H. Leary, Edenton, Chowan co.
" John P. Munroe, Durham, Durham co.
" Samuel C. McClure, Statesville, Iredell co.
" Charles B. Woodley, Kinston, Lenoir co.
" Charles R. Gurkin, Jamesville, Martin co.
" Benjamin W. Burt, Enno, Wake co.
" F. P. Gates, Kinston, Lenoir co.
" John H. Harris, Rolesville, Wake co.
" M. R. Braswell, Rocky Mount, Nash co.
" R. W. Tait, Wallace, Duplin co.
" James C. Black, Springville, Cabarrus co.
" B. C. Moore, White's Store, Anson co.
" C. B. Ingram, Mt. Gilead, Montgomery co.
" Thomas P. Wynn, Warrenton, Warren co.
" John E. McLaughlin, Statesville, Iredell co.
" Joseph J. Mann, Louisburg, Franklin co.
" Archie McKinnon, Lumber Bridge, Robeson co.
" Benjamin F. Cox, Palmersville, Stanly co.
" A. J. Buffaloe, Raleigh, Wake co.
" Ed. M. Hollingsworth, Mt. Airy, Surry co.
" Joseph I. Hollingsworth, Mt. Airy, Surry co.
" Wm. B. Crawford, Goldsboro', Wayne co.
" William A. Monroe, Union Church, Moore co.
" William E. Wilson, Davidson College, Mecklenburg co.
" John McC. De Armon, Alexandriana, Mecklenburg co.
" M. T. Pope (col'd), Rich Square, Northampton co.
" L. A. Scruggs (col'd), Liberty. Va.
" J. T. Williams (col'd), Charlotte, Mecklenburg co.—Total, 46

There were sixteen applicants who were either rejected or were allowed to withdraw their application for license.

W. J. H. Bellamy, M.D., Secretary.

ADDRESS OF JOSEPH GRAHAM, M.D., THE RETIRING PRESIDENT.

(Delivered before the Medical Society of North Carolina, at New Bern, N. C., May 20, 1886.)

Gentlemen of the Medical Society of the State of North Carolina:

To-day we chronicle another year in the life of this Society. Having doffed for the nonce your professional harness, and ceased awhile your ministrations to the sick and suffering, you have come together from all sections of the Old North State, hoping to enjoy (to many of you) the only respite from labor which you experience during the year. And in this spirit I am happy to greet you here to-day, and express the wish that this meeting shall be to one and all, not only a source of much pleasure, but of genuine profit also.

The annual assembling of so many toilers in a common vineyard can but be productive of ties of friendship and much social enjoyment. On these delightful occasions it is our privilege to grasp hands, look into the faces and speak the words of friendship to many responsive hearts whom we can meet but once a year.

The value of such felicitous social intercourse and the being brought face to face with the inner-man medical, should not be too lightly estimated. It raises our appreciation of our adopted profession, creates an *esprit du corps*, and imbues plenteously our hearts with brotherly love for our comrades who are warring so nobly against misery and death.

Having alluded thus briefly to the social advantages of these meetings, we come now to speak of the value of *organization*, and the *duty* which each individual member owes to this Society.

In the accomplishment of marked success in any particular line or calling in life, we must necessarily look to the *associated action* of its followers. That high order of genius which rises above all obstacles, and, single-handed, is able to triumph, falls to the lot of exceedingly few. Hence we cannot afford to rely upon our independent and individual efforts, but must associate ourselves with those whose study and practice conform to our own.

In medicine, not only in the advancement of the individual physician measurably dependent upon association, but the science itself

must wane without its aid. And the condition of the Medical Society of any State points unerringly to the character and status which the profession enjoys in its commonwealth.

The State Medical Society is an organization the usefulness of which is in direct proportion to the interest manifested in it by the rank and file of the profession. Hence a great duty rests upon us all, lest by indifference and neglect we allow it to fail of that high ideal of utility which every member should set before himself. The first step in the path of duty is punctuality in attendance upon its conventions. But few excuses should be counted sufficient to warrant a member's absence. He can but be benefited by contact with his brother practitioners of the State, if he but erect for himself a high standard of professional usefulness, and scorn any motive lower than the highest in any work he may find to do. It must be said to their credit that, if you desire to find the hard-worked men of the profession, the busiest practitioners, the most successful physicians and surgeons, and those who enjoy the greatest confidence of their several communities, you must go to their conventions. At the post of duty are ever to be found the leaders, as well as the earnest seekers after knowledge. Show me the man who is always too busy to attend the meetings of his Society, and I will point out to you, with very rare exceptions, one (granting the honesty of his excuse) who is very slip-shod in the prosecution of his work. Let such an one be not deceived. He is growing blind to his own interests, just in proportion as indifference to professional obligations takes possession of him.

Lord Bacon has well said: "I hold *every man* a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amend, to be a help and an ornament thereunto."

This is a day of progress, and the spirit of advancement is abroad in the land, not only outside, but within the medical profession as well, and he who keeps himself abreast of the foremost will always be the man of success, verifying the adage that "Everyone is son of his own works."

The high standing which this Society has thus far attained, of course, should be a cause of congratulation among ourselves. But one must not rest content here: our watchword must be "Onward! upward! till the goal we win!"

The success which we have achieved in the past must be but the incentive which shall goad us on to higher plains and nobler deeds—to greater excellence in performance of duty, and more exalted ideas of the influence which a thoroughly united medical profession can and must wield upon the body politic. We see this influence, but dawning, as it were, in the recent enactments of our State Legislature (very meagre, it is true), in behalf of our State Boards of Medical Examiners and of Health. And this much is the fruit of the organized efforts of a very *few*, more zealous than the majority. We hail it, therefore, as a faint foreshadowing of the great results which are in store for us when we shall have become a truly united profession, alive to our own interests and ever mindful of those of the public. But as the *individual* never rises higher than he aspires, so also will the usefulness and influence of the *profession* be regulated and gauged by that standard which its body corporate set up for it.

Then let us cast about and consult among ourselves as to the methods best calculated to insure that standing and weight among our fellow-citizens which our offices as conservators of their health and well being so justly entitle us. How much soever we may differ as to the *modus operandi*, I am satisfied all will be agreed upon the strength of union. We must enlist under one banner every physician in the State who is eligible to membership in this Society. We must bring into its fold or under its control every physician, as far as we can, "who was practising in the State prior to April 15th, 1859—all those licensed since that date by the State Board of Medical Examiners, and any who have diplomas from regular medical colleges prior to January 1st, 1880." I would suggest to you, then, the propriety of taking some immediate and decisive steps for enlarging the influence and usefulness of our organization. And looking to that end, it would be well for this Society at its present meeting to adopt some system which will insure the revival of county societies wherever they have heretofore existed, and the establishment of one in every county where there has been none, until these auxiliary links shall form a chain of professional brotherhood reaching from the mountains to the seaboard, and embracing every reputable practitioner in the State. Paramount to all other objects must ever stand the *most efficient possible organization* of the medical profession of the State, for upon it

depends our every success, whether scientific, literary or legislative. To accomplish this it would be well that our Constitution be remodelled, so that the State Society shall have power to charter and control all these county and local societies in the State and to make rules and regulations for their guidance in so far as pertains to the welfare and honor of the general profession—not, however, interfering with matters of self-government and of purely local interest. In this way only can this Society even exert its proper influence on the profession, both individually and collectively in the promotion of a high standard medical education, the fostering of high-toned ethics and a generous rivalry in the elevation of provisional character and interests. Thus we will be enabled to mould public sentiment and procure wholesome legislative enactments for the preservation of our own lawful privileges and the protection of the people themselves against the wiles of ignorant pretenders and impudent charlatans. The advancement of scientific research may be thus furthered, also, by systematic reports on climatology and the etiology of disease in the various sections of the State, together with its medical botany and the therapeutics of the same. Such a thorough organization as is here contemplated, I am aware, will be difficult, and can only be accomplished after the surmounting of many obstacles and at the cost of much time and some money. But how does it differ here from any other enterprise of value? Great prizes are estimated by their cost, and are the reward of well-directed, persistent effort, tempered with judgment and fired with that zeal which always insures success.

Possessed of an intelligence which cannot fail to appreciate the magnitude of its importance, this body of medical men must see at a glance that thorough organization is the keystone to success. Without it we can accomplish but little, with it all things are possible to us, and our usefulness and progress will be measured by its approach to perfection.

The vast area of our territory, extending over nearly one hundred counties, very many of which are as yet difficult of access on account of lack of railroad communication, will hinder much our progress for a time. But the rapid march of internal improvement will soon furnish sufficient travelling facilities, and our difficulties will melt away before resolute purpose and self-sacrificing devotion to duty, like snow before the genial rays of the noon-day sun. I

have an abiding faith that, once enlisted, and with a full concert of action among themselves that the medical profession of this State can and will compass this great work, and thus lay the foundation for a measure of usefulness far surpassing the brightest dream of the most sanguine.

With the profession in each county organized under a charter granted from this central legislative power, and working in concert with and under its guidance as the law-giver, wise and prudent counsels will prevail, selfish ambitions be laid aside, and all the power of concerted action will be felt in the advancement in honor, dignity and influence. With this central controlling body, with its numerous branches permeating every township and hamlet in the State, the greatest possible facilities for redressing wrongs, protecting our own rights and presenting work of all kinds will have been afforded. The unselfishness of our purposes and the self-sacrificing devotion to duty, which I am proud to say have ever characterized the profession in all ages and in all lands, will become thoroughly manifest, and must necessarily address itself favorably to the honest, sober judgment of our fellow-citizens. They will be convinced that we seek no legislative enactments for our own exclusive benefit; but that, true to the high calling to which we have been called, we seek first the welfare of the community at large, hoping to be rewarded only as they are benefited. But this ideal organization can only be obtained through county societies. And these county societies should be clothed with all necessary power for the exercise of immediate jurisdiction over the medical profession and have a special care of all medical interests in the several counties. Each one should form one of the component parts of this Society and be entitled to equal representation in this medical legislature, from which all laws pertaining to the governmental control of the profession in the State shall emanate.

We would not appear to have lost sight of the cultivation of the science and the art of medicine. Not at all. We are only preparing for a more vigorous and systematic prosecution of such investigations. We desire to organize and drill our forces for the work before us—to make their minds familiar with the obligations and responsibilities resting upon them, in order that they may see clearly the path of duty, and pursue it with a steadfast purpose, which shall teach them to be true to themselves and have a care for

the welfare of the whole profession. To this end I recommend for your consideration the appointment of a committee whose duty it shall be to examine the Charter, Constitution and By-Laws of this Society and see what changes, if any, are needed to advance the medical interests of the State to the highest point of usefulness and perfection, and to report their conclusions to this or the next annual Convention.

For about one-third of a century has the State Medical Society been striving for the prosperity and general welfare of the profession, and, it has been truly said, with a fair measure of success, having accomplished much in which we may take just pride. But we should be alert for every improvement, and it might be well for us to examine from time to time the constitutions and rules of action of similar societies in some of the foremost of our sister States, as well as their State laws pertaining to the medical profession and medical interest therein. Notwithstanding the New York *Medical Record*, in a recent editorial, has been pleased to style North Carolina the "banner State in respect to the legal safeguards thrown about medical practice," we should "not sleep upon our laurels," for if we do we will awake in the not distant future to find some of our younger, but progressive sisters outstripping us. After some correspondence and a limited examination of some of their plans of operation, I am convinced that the great draw-back to medical progress in this State is the want of consolidation into one harmonious whole. Of about fourteen hundred practitioners in the State this Society cannot boast even an acquaintance with more than about one-third of the number, while in the State of Alabama (and I mention her in the spirit *palmam què meruit ferat*) the profession in nearly every county has been enlisted into *one* army of workers, who have accomplished more in the same time than those of at least any other Southern, and I had almost said Northern State also. But this great work has required for its accomplishment much self-sacrificing and earnest labor and a considerable expenditure of money by their Medical Association. In about twelve years, I think, they have expended about forty thousand dollars, in addition to a vast amount of persistent, united, well-directed individual and general effort. But, in regard to the large sum of money, it must be noted that, in that State, the Medical Association, besides its immediate professional interests, is

the Board of Medical Examiners as well as the Board of Health also, and much of this money has doubtless been expended in furtherance of the work of the latter. Be that as it may, in annual installments it was but a light tax upon the profession in that length of time. I am satisfied that we can do as much as they if we once get our long list of scattered physicians enrolled in a well-disciplined body, with duty as our watch-word and success our shiboleth.

The talent and spirit of self-sacrifice is but dormant in our ranks, awaiting only the call to action and a full understanding of what is sought to be accomplished.

After *organization*, perhaps the next most interesting consideration to which I could beg your attention would be, how to make our sessions most entertaining and profitable.

It is always pleasant, and attended with more or less profit, to listen to reports of well-selected and carefully recorded clinical cases; but in addition to such volunteer material, I think there should be one day set apart for the discussion of subjects which, having been selected prior to the meetings, should be sent out to gentlemen who will prepare to discuss them. To accomplish this I would recommend that the President be empowered to select a *conductor of debate*, whose duty it shall be to select a subject or subjects for discussion, and shall open the debate on each with the privilege of the concluding speech.

In presenting his subject the conductor shall do so, not by reading a written essay upon it, but off-hand, in as concise a manner as possible, without other written help than perhaps a few short notes. He must present one subject at a time, and it shall be before the Society, till all who desire shall have spoken to it, when he may, if he chooses, conclude the discussion of it by making any reply or explanation he may deem necessary. One subject having been thus disposed of, he opens another to be debated in the manner just prescribed, and so on till he has completed his list. It should be the duty of the conductor to furnish the Secretary, three months prior to the meeting of the Society, a list of the subjects for discussion, in order that he may have them embodied in a printed circular. This circular should contain, also, as far as the Secretary can obtain it, a resumé of all the other papers and business likely to come before the approaching Convention. In this way members may

become familiar with all the subjects likely to be discussed, and will come prepared to take an active part in the debate. This general debate is not intended to bring forth long *written* lectures on special diseases or medical questions either, but to enable the members for mutual instruction to set forth their views, in short, off-hand speeches, on current medical topics, by detailing personal experiences in the use of new remedies or any original observations in reference to the nature of disease and the therapeutics adapted thereto, or any facts or peculiarities of epidemic or endemic influences which they had noted, and to bring out the prominent features of professional experience and convictions in a concise and informal manner. And each member should, immediately after adjournment, and while fresh in his memory, reduce his remarks to writing and hand them to the Secretary in order that they may be incorporated in the transactions of the meeting. Let him also be particular to accompany them with such explanations as will enable the Secretary to properly and intelligently place them in the report of the debate. I would suggest, also, that they occupy only one side of the paper, to save transcribing for the printer. An arrangement more or less like the above, especially as regards members being made acquainted with the subjects for discussion prior to the assembling of the Convention in order that a number of gentlemen may be prepared to give their views and experiences obtains in very many of the best medical societies, both North and South, and anyone who observed the great lack of debate in many of our meetings has been forced to the conclusion that the desired usefulness of these conventions has been very much crippled thereby. Being not much accustomed to public speaking, most physicians will be benefited by this allowance of time for preparation and arranging of their thoughts, in order that they may speak more fluently, without overlooking many matters of interest. It may, perhaps, have been the original purpose to have the annual essay as the subject for discussion ; but however the intention may have been, it has failed in practice. It has become the custom for the essayist to select his own subject, and it has never been made known to the members till he announces it when he rises to present it. How much more profitable and better would it be to have several other gentlemen, having been made acquainted with the title of the paper a few weeks prior to the meeting, to discuss it, giving the Society the

benefit of their own experiences and the details of certain procedures and remedies which had been crowned with success in their hands. But even this plan would be inferior, I conceive, to the one I suggested--of an unwritten statement of the subject and an off-hand discussion of the same, in speeches of five or ten minutes duration. The subjects for this general discussion should *preferably* be such as occur especially to the North Carolina practitioner, and should embrace any peculiar features brought out by climate latitude or habits of the people, and any conditions not generally noted in the text-books. Thus we would lay the foundation for the study of disease as it occurs among ourselves, modified, perhaps by our climate, and treated by remedies more or less influenced by locality and continued peculiarities of its people. In this way could be saved from oblivion much of the vast fund of useful clinical experience of the country practitioners, as we are all denominated by our metropolitan brethren.

It is certainly true that, above all, clinical facts are always valuable, especially since we have been thus far able to solve but few of the problems of medical science. And there is but one way by which we can preserve our work in such shape as to make it available to ourselves and really interesting to the profession for intelligent, logical deductions, and that is by the accurate and careful keeping of systematic *case records*—recorded daily, and in many instances at the bedside, while the facts are under observation, and with the aid of all the modern appliances with which this age of progress has supplied the physician.

The completeness and portable shape in which the paraphernalia for accomplishing this work is offered to the profession, including, as it does, the clinical thermometer, urinary test-case and blank record sheets, has reduced the labor almost to the minimum—a matter of no small moment to the busy practitioner. I fear that most of the older heads among us have gone too far in the grooves in which we started for us to throw off the shackles of habit and do our part in full as we should. But I suggest to our younger brethren, alike the pride and hope of the Society, that they begin at once to keep systematic case records of their daily work. They will find that it begets, among other advantages, more careful examinations, a greater precision in diagnosis, a more intelligent comprehension of the action of remedies, a clearer insight into the

etiology of disease, as well as its symptomatology, its modes of attack and its tendencies towards death or recovery. But few of us are favorably situated for original scientific work, but everyone has a duty before him in the preservation of valuable clinical facts. And just here I am reminded of another of our sins of omission, and one of which we are almost unanimously guilty, and that is a failure to do our part towards supplying material for our own North Carolina Medical Journal. The most of this can very properly be charged to the ill habit of not keeping accurate notes of our experiences. If every physician present, seeing that

> "Ill habits gather by unseen degrees,
> As brooks make rivers, rivers run to seas."

would resolve to shake off this lethargic indifference and begin immediately upon his return home to make daily records of all his cases, he would soon have an accumulation from which he could easily select something of interest and value to the readers of the Journal. It is a shame upon the profession of the State that they have done so little, by their pens, at least, to help hold up the hands of its deserving editor, of whom it would be no fulsome laudation to say that he has done more for the advancement of medical science and the elevation and prosperity of the profession of North Carolina than any physician who ever lived within its borders. When you have taken this first forward step, the day will not be far distant when the North Carolina Medical Journal will begin to reflect credit upon the profession of the State, as it has ever done upon its editor. It is not for lack of ability that State talent has been so much more conspicuous by the absence than the presence of home articles in the Journal, but on account of procrastinating indifference and careless habits of trusting to over-taxed memories, which fail us, for some of the most important and interesting points when we would put them in shape for print.

A regular and systematic habit of note-taking, then, would soon overcome that mistaken modesty and indisposition to attract attention, so characteristic of all North Carolinians. Fortified by accurate records of all the principal features of the case, you will feel emboldened to tell the truth. It is true that elegance of diction and ornate style may not at first characterize your productions; but lack of these cannot mar the value of well-observed facts and sound

principles which your well-measured experience has inculcated. Then let each one resolve to *do* and keep a record of it, since "We live in deeds, not years, in thoughts, not breaths."

At your last Convention a change in the By-Laws of the Society was effected relative to the Committee on Nominations by the adoption of the following resolution offered by Dr. R. H. Lewis, of Raleigh:

Resolved, That the members of the Nominating Committee be elected, one from each Congressional District, by the members present on the night of the second day, and in the absence of any member from any district, the vacancy shall be filled by the President.

At the present session, for the first time, you will be called upon to put the new law into practice. And I need hardly remind you that this is by far the most important committee of our organization, and great care should be exercised in the selection of its members; for upon the wisdom and prudence with which they act will depend largely the welfare of the Society. With an eye single to this, they should be swayed in their choice by neither fear, favor nor affection, but should canvass thoroughly the fitness of every name presented for their consideration. This, of course, will be done in all fairness and good-will, and with malice toward none; but frankly and freely, in the full assurance that all the deliberations and discussions of this committee are strictly private and confidential. Its *conclusions* are alone admissible for report outside the doors of the committee-room, and that not till they have been published to the Society through its chairman. With its deliberations stripped of this confidential privacy, the Nominating Committee would be unable to arrive at conclusions which would redound to the best interests of the Society. The necessity for selecting officers from among the men who have been for the longest time *working* members of the Society, and consequently well imbued with the true purposes of the organization, cannot be too strongly inculcated.

The growing importance and influence of your Board of Medical Examiners is well attested by their report of their work for the year just closed. At their meeting during the last session of the Society, in Durham, there were present for examination the unprecedented class of one hundred and one. Of this number eighty-four received permanent and four temporary licenses, while one withdrew and twelve were

rejected. In Raleigh, August 24th, sixteen candidates applied, thirteen passed satisfactorily and three were rejected. The Board then adjourned to Asheville, August 27th, for the greater convenience of the profession in the trans-montane section. There they met a class of thirty-seven, and of these, after careful examination, twenty-two were found worthy to be licensed, seven were allowed to withdraw and eight were rejected. From the above figures we find that the applicants during the year aggregated one hundred and fifty-four. Of this number one hundred and nineteen fulfilled the requirements of the law and received permanent licenses, while four were granted a temporary certificate (which the law says shall only hold good till the next regular meeting of the Board, when the candidate shall undergo another examination), making a total of one hundred and twenty-three who were wholly or partially successful, while the eight who withdrew must be added to the twenty-three rejections, making thirty-one found unfitted to receive the State's sanction to practice medicine. But, really, in passing upon this report, while all withdrawals, evidencing, as they did, undoubted deficiency, must be added to the rejections, swelling the number very properly to thirty-one, yet we can hardly in fairness add the four temporary to the one hundred and nineteen permanent licentiates. This being the case, we find that, in truth, one hundred and fifty applied, of whom one hundred and nineteen were successful, while thirty-one were unsuccessful. In other words, the year's work shows that 79¼ per cent. received license, an 20¾ per cent. were rejected, or that not quite one in every five applicants were found duly qualified to enter upon the duties of the profession.

The law in regard to the qualifications of those who may go before the Board for examination for license to practice medicine in North Carolina is deficient in one very important particular, viz: in not requiring the applicant to produce his diploma of graduation from some recognized regular college before being examined. We should try and have this amended by the State Legislature as one of the steps towards a higher standard of professional excellence. From an experience on the Board immediately preceding this, and from conversations with its members, I know that a considerable number of "one-year men," and, indeed, one or two who had never attended any college at all, have been among those asking to be licensed. The licensing of such men, even though they may have acquired enough technical information on general branches to get the votes of a

majority of the members of the Board, can but tend to lower the standing and influence which should be accorded the medical profession. Instead of a *majority* of the votes (independent of the importance of the claims they represent) entitling one to the license, the law should be so amended that it shall read "that less than five members concurring in the qualifications of the applicant, he is rejected." It is to be noted, also, that where a candidate succeeds in obtaining only *four* votes, the bare legal majority, that they are almost invariaby upon the most unimportant branches, and he really ought to be rejected, and would be, but for this flaw in the legislative enactment. In this connection, it is gratifying to see that medical practice laws have received the sanction of the highest courts in several of our sister States, and that their validity and constitutionality have been affirmed in recent decisions on the subject; thus establishing the fact that boards not only have the power to grant, but for sufficient cause ("unprofessional conduct") to rescind licenses as well. A decision in an Illinois court, among other points, goes on to cite that "the board, in the exercise of its discretion, cannot be controlled by judicial tribunals. Unprofessional conduct and criminal conduct are not synonymous. The law makes the State Board of Examiners the judge of the former. Equity will not interfere to control its judgment."

Says the New York *Medical Record* of a recent date: "Twenty-nine States and Territories have passed laws to regulate medical practice. In five of these States, viz: Alabama, Arkansas, Mississippi, North Carolina and Virginia (all Southern States, it will be observed), diplomas are not sufficient to give a man a legal standing. He must meet the requirements of the State Board.

In respect to the legal safeguards thrown about medical practice, North Carolina seems to be the "banner State, and she seems to show her faith by her works."

Thus we see that the good work of the Medical Examining Board, begun here in 1859, goes bravely on, and is gradually spreading its beneficent influence to many other States.

It will be unnecessary for me to say anything to you concerning your Board of Health, as they will make a specific report at the joint meeting with the Society at its present session.

Several other subjects need the attention of the Society, but I cannot trespass upon your time longer, and my successors will doubtless call attention to them, as they may occur to each.

An address of this character, I know, can hardly be said to be complete without some allusion to the great importance of a higher medical education. But neither time nor space will admit of my going into this extensive subject again this year, after the able and extended remarks in the Message of my honorable predecessor.

And now, gentlemen, the Annual Message is before you, with its countless imperfections, of which none can be more conscious than I. But if it shall be in the least instrumental in advancing the usefulness of this Society or in elevating the profession in North Carolina, I shall have succeeded in my undertaking.

You have my thanks for your kind consideration, exhibited in your patient attention, and I must remind you, in conclusion, that

> "Whoever thinks a faultless piece to see,
> Thinks what ne'er was, nor is, nor e'er shall be."

INTERESTING CASES OF OPIUM POISONING.

Atropin as an Antidote—Artificial Respiration and its Utility—Resuscitation of a Patient who was Pronounced Dead—A Successful Prolonged Maintenance of the Heart's Action after Breathing had Ceased and the Patient beyond Remedy—Remarkable Resuscitation of a Still-born Child.

By W. T. Cheatham, M.D., of Henderson, N. C.

(Read before the North Carolina State Medical Society at New Bern, May 20, 1886.)

The rapid increase in the use of opium and its derivatives by the general public, without proper regard for intelligent medical advice, has engendered an unwholesome and pernicious state of society, which has become painfully disastrous, both to the mental and physical condition of a large percentage of our population. Only a few years in the past the opium habit was a thing comparatively unknown, but to-day we witness an appalling spectacle in the ability

of every city, town and hamlet to furnish its brigade, regiment or company, so to speak, of these unfortunates. The large amount of opium and its numerous preparations consumed by this class of individuals has created in the public mind a feeling of security against the immediate hazard likely to follow its improper administration. This illegitimate use and its consequent liberal administration for almost every conceivable complaint by persons uneducated as to its proper dose, therapeutic indication or physiological action, brings it in the domain of the medical practitioner, by far more frequently than formerly, to exercise his skill for the relief of persons whose lives are put in jeopardy by the injudicious administration of this potential poison.

I will, therefore, submit for your consideration the clinical history of a few cases, with some remarks in connection therewith.

Case 1.—A lady, aged 28 years, had neuralgic catemenia; called in a gentleman who was accustomed to administer morphia subcutaneously to his invalid wife, and prevailed with him to try his skill in her case. Urging the necessity for a large dose, he injected two and a half grains of sulphate of morphia. I saw her in company with Dr. J. S. Meadows an hour after its administration. The pupils were minutely contracted and insensible to stimulation; unconsciousness profound, with muscular relaxation and abolition of reflex movements; respiration slow, 3 per minute, shallow and quiet; face shrunken, palid and cyanosed; skin wet; heart pulsations rapid and feeble; atropia 1-24 grain was given subcutaneously; in twenty minutes 1-60 grain was injected, soon to be followed by its mydriatic effect, the pupils dilating widely; the circulation and respiration remaining unchanged for an hour, when the breathing became so indistinct and shallow as to require close inspection to determine whether or not she was living. Recourse was had to artificial respiration, which was practiced at intervals for three hours, when there was manifest improvement, the respiration being 5 per minute and not so shallow. Thenceforward there was gradual improvement, the circulation and respiration becoming better established. The first evidence of returning animation was at the expiration of nine hours, and consisted in twitching of the muscles of the eye-lids. At the expiration of the eleventh hour she with difficulty swallowed some coffee, and was soon beyond danger. She

informed me that before the administration of the morphia she took fifty drops of tincture of opium.

Case 2.—An old lady of 70 years, the wife of an opium-eater, had colic, for which he gave one-half grain of morphia; her suffering was so acute that his impatience got the better of him, and, without reflection, he gave two ounces of tincture of opium. I saw her six hours after its administration. She was senseless; skin wet and cyanosed; breathing stertorous and 4 per minute, with feeble and slow action of the heart; muscular relaxation, with abolition of reflex movements; pupils contracted to a fine point. I gave subcutaneously 1-60 grain of atropia, which was repeated in thirty minutes, the pupils dilating widely; but no appreciable effect was observable on the action of the heart or respiration. At the expiration of thirty minutes I injected 1½ grain of sulphurate of strychnia, and repeated the dose in forty minutes. Its excito-motor action was soon made manifest by slight twitching of the muscles of the face and extremities, the respiration and action of the heart remaining unchanged. It was not long, however, before it was evident that the crisis was at hand, the respiration growing rapidly worse, to soon entirely cease; artificial respiration was now practiced, the ingress and egress of air being regulated to 12 or 14 per minute. Respiration was soon restored, to continue a few minutes and again cease. This vacillating condition of cessation and restoration of breathing continued for four hours, artificial respiration being had recourse to many times to re-establish the respiration and save her from immediate death. Thenceforth the improvement was slow, but permanent. It was seventeen hours before she was restored to consciousness and beyond peril.

Case 3.—A bar-tender, while in a state of inebriety, called to see him (Dr. J. H. Tucker), who prescribed a combination of bromide potassium and hydrate of chloral to quiet his excited and nervous condition. During the doctor's absence I was called to see him, and found him with phrenetic and hideous phantasms of delirium tremens, endeavoring to escape by a window from the second story of the building. I administered subcutaneously ⅓ grain sulphate of morphia and left word for the doctor as to what I had done. An hour afterwards he returned to find his patient in a state of pro-

found narcosis. I was immediately summoned. He was senseless, with abolition of reflex movements; pulse feeble and rapid; respiration shallow and 3 per minute; pupils contracted to a fine point, with an absence of the cutaneous manipulations usually observed in opium narcosis (cyanosis and wet skin). Atropia, 1 60 grain, was administered subcutaneously; pupils dilating promptly, but without effect on respiration or circulation. Recourse was had to electricity, one pole being applied over the pneumagastric at the base of the neck, while with the electric brush the chest was faradized. (We failed to apply the opposite pole to the seventh intercostal space to obtain the direct effect on the diaphragm). Respiration now became so imperfect and vacillating that several times we thought him dead, to be resuscitated by artificial respiration. For five hours his case seemed hopeless, artificial respiration being necessary every few minutes to prevent immediate dissolution. He made a good recovery. This man has since informed me that he had partaken freely of various alcoholic mixtures, and a few minutes before I saw him drank a pint of Angostura bitters, a mixture used by shopkeepers to disguise inferior whiskey. In this case we had a mixed narcosis, the result of alcoholism, chloral, bromide and morphia.

Case 4.—A child 13 months old; had prescribed for it a chalk mixture containing tincture of opium. The physician prepared it extemporaneously, without proper regard to the quantity of the tincture to be taken in each dose. The dose must have been large, as the mixture was quite dark and emitted a strong opium odor. The mother stated that he poured it from a vial into the mixture without measuring or dropping. Eight hours had elapsed before I saw it. The eyes were glazed; the conjunction deeply injected, with pupils contracted to a fine point; abolition of reflex movements; the cutaneous surface dusky, purplish and wet; respiration 4 per minute and shallow; pulse scarcely perceptible and rapid. I practiced artificial respiration, regulating the ingress and egress of air to about 16 or 18 per minute. In forty minutes there was a decided improvement, the respiration 12 per minute, without the assistance of artificial respiration, and the pulse of better volume. In two hours and a half there was a return to consciousness. Artificial respiration was not practiced after the respiration had attained 12 per minute, the case being then left to nature.

Case 5.—A lawyer of stout build, with short neck and of full habit was on a spree. At 10 P. M., I was summoned in haste to see him ; I was met at the door by his doctor, who informed me that his patient was dying, and was about breathing his last ; thonght he had apoplexy. I found him lifeless ; the cutaneous surface presenting a deep dusky purplish hue ; circulation rapid and feeble, with respiration 3 per minute and stertorous ; his mouth was open, with a frothy liquid bubbling out at each expiration ; the pupils were contracted to a fine point. My diagnosis was opium necrosis, but the doctor thought differently, as he had not prescribed opium or any of its alkaloids. I repaired to a druggist near by to obtain a solution of atropia. Finding his place of business closed, I returned as quickly as possible, and on re-entering the house I was informed that he was dead ; a gentleman was recording the time of his death on the wall with his pencil. On placing my hand over the præcordia I could distinguish feeble heart pulsation. I lifted him quickly, and, turning him face downward, at the same time pulling his head over the side of the bed, and with my hand making pressure over the stomach, about a quart of fluid escaped by the mouth and nostrils. This procedure was to prepare him for artificial respiration, there being a frothy liquid oozing from the angles of his mouth, which it was necessary to remove in order that there should be no obstruction to the entrance of air to the lungs. Artificial respiration was immediately instituted, the ingress and egress of air being regulated to about 14 or 16 per minute. It was thirty-one minutes before there was an attempt to respire, the effort being weak and ineffectual, no air penetrating the lungs ; and thirty-seven minutes elapsing before a successful respiration was accomplished independently of artificial means. Artificial respiration was continued with an occasional successful respiratory effort intervening. The improvement was gradual, but slow. In an hour and forty minutes he was breathing 5 per minute, but it was of a stertorous character. It was nine hours before there was a return to consciousness. This gentleman was resuscitated by artificial respiration alone, no other means being used. His wife, however, before I saw him, applied a hot smoothing iron to his feet, which burned one of them so severely as to require the use of crutches for several months as a means of locomotion. I was never able to ascertain the amount of opium or its alkaloids taken by this patient,

but it must have been large, as it was his custom while spreeing to take a grain or two of morphia at a dose of his own volition. He lived twelve months to die of pneumonia.

Case 6.—A boy, 8 years old, had acute basilar meningitis, derived by contiguity of tissue from disease of the internal ear. His suffering was intense; wild delirium, with agonizing cries from pain; ocular defects and disturbances; twitchings of the facial muscles; rigidity and contractions of the spinal and cervical muscles, etc. This was the first day of the disease. Two days previously the pulse was 60 per minute, the result of pressure on the medulla oblongata, with a temperature of 103°, but now the pulse was 170 per minute, with a temperature of 104°. This patient had received the treatment usually prescribed in cases of this kind. In consultation, all other means of obtaining quietude having failed, it was suggested that 1-6 grain morphia be given subcutaneously; to this I demurred, believing that the delirium would soon be succeeded by somnolence gradually deepening into coma, and that the morphia would hasten this inevitable condition, and perhaps be looked upon as the sole factor in its production.

This was explained to the father, an intelligent druggist, and with his approval, to obtain immediate relief from suffering, 1-8 grain morphia was injected, the solution containing atropia to antagonize its lethal effect. This soon produced quietude and apparently good sleep. We left to return in two hours; but in thirty minutes we were summoned in haste to find our patient senseless, with abolition of reflex movements and breathing 4 per minute; pupils dilated and the appearance of the skin normal. In a few minutes the respiration increased to 12 per minute, but soon became alarmingly slow, and suddenly ceased. I immediately instituted artificial respiration, regulating the ingress and egress of air to 16 or 18 per minute, the heart continuing to pulsate. With the assistance of Dr. J. H. Tucker and two young men, the artificial respiration was continued eleven hours and forty minutes, the heart continuing to act with remarkable vigor during the entire time, but at no time during that long period did the patient respire *per vias naturales* or make an effort at respiration. Indications of approaching rigor mortis were now manifest, the entire cutaneous surface being cold, with the extremities cold and stiff. Although the heart could be distinctly felt to pulsate, our efforts to maintain its action longer were discontinued.

In case 1st, I was very decided in the opinion that atropia, by its antidotal effect, saved my patient's life. This opinion, I think, was premature, and the outcome of my reading and investigation of this subject. Recognizing atropia's antagonistic effect on the iris, I readily embraced the doctrine promulgated that it was all-sufficient to counteract the deadly work of opium and its alkaloids taken in lethal quantities; but my subsequent experience has caused me to materially modify my opinion, and I now attach much importance to artificial respiration as a factor in producing the happy result, though imperfectly practiced in this case. In the cases of the old lady and the bar-tender, both of whom took atropia for its antidotal properties, without the aid of artificial respiration they must have perished. In the case of the child no antidote was given, and it is possible, but not at all probable, that it would have recovered without assistance; yet it is clearly manifest that artificial respiration put it beyond hazard, if not, in fact, saved its life. Again, in the case of the lawyer, who did not respire in thirty-seven minutes, can it be said that any other means than artificial respiration could have resulted in his resuscitation? And again, in the case of the boy in whom the heart pulsations were continued for eleven hours and forty minutes, can there be any doubt as to the wonderful efficiency of artificial respiration, or that he would have been saved had it not been for the cerebral complication? For the medulla oblongata and pneumogastric nerves regulate the respiratory movements so far as they are involuntary and independent of consciousness; therefore it is evident that the existence of disease involving the respiratory center, the medulla oblongata, precluded the possibility of resuscitation. This condition being fully appreciated, artificial respiration was practiced as a matter of experimentation, and we aver that the result was simply wonderful.

I do not propose to enter into a lengthy discussion of the supposed physiological action of atropia, but refer briefly to what seems pertinent as relates to its antagonism in opium narcosis. There seems to be no fixed principle by which we may be guided in the administration of atropia to obtain its antagonism. The hypodermic dose and the frequency of its repetition have varied in different cases between remote extremes. In one, for example, five doses each of 1-12 grain was given within as many hours (*Medical News*, xl. 123). In another case 1-10 grain was injected, and afterwards 1-4 grain (*Practitioner*, xxiii. 123). Fothergill gave one grain to

antagonize "12 to 17 grains of opium." Dr. J. H. Clarke administered 1-150 grain every half hour up to three doses (the pupils dilating), to counteract thirty grains of morphia and 1-1500 grain to antagonize 1 grain of morphia. In the *National Dispensatory* it is recommended that we administer 1-60 grain, and repeat until the pulse and respiration acquire more force and the pupils begin to dilate; and caution must be observed lest we substitute the narcotic action of atropia for that of opium. Dr. Bartholow is very positive that 1-120 grain is the dose proper to be given to obtain the antagonistic effect, "and this may be repeated every fifteen minutes (up to three doses) until the pupils dilate," then await the result of the antagonism. He gives strong caution against pushing the remedy, "lest we substitute belladonna narcosis for opium narcosis, and thus induce the state which its administration was intended to relieve." He also states that he has had some painful personal experience, and that "it is a fatal error to attempt to restore a patient to consciousness by repeated doses of belladonna, for the repeated action of these agents combined is to produce a profound sopor, and this is not a condition of danger so long as the pulse, respiration and reflex movements are in a good condition. To substitute belladonna narcosis for opium narcosis is only to increase the hazard under which the patient is already struggling." Dr. H. C. Wood thinks 1-40 grain a fair dose to commence with, and that 1-40 or 1-60 grain may be injected every fifteen, twenty or thirty minutes, as the urgency of the symptoms may demand; that the delicate, practical point is to decide how often to repeat the dose, lest paralysis of the nervous trunks is produced and the danger increased. It is difficult to harmonize the conflicting opinions, as to what is the proper and safe course to be pursued in the administration of the mydriatic for its antagonistic effect in opium narcosis. It is manifest, however, that too much caution cannot be exercised in the administration of this potential toxic agent; especially is this true when the nervous centers are in a state of narcotic paralysis. In those patients to whom I administered it for its physiological action on the respiratory and cardiac nervous centers it failed to sustain its high reputation, although (in every case) mydriasis was fully established. (Strychnia and electricity also failed.)

It may be that the failure to sustain its physiological record was due to diminished and paralyzed reflex susceptibility, the nervous

system being overwhelmed by the existing toxæmiæ, and therefore was not susceptible to the antagonistic action of the mydriatic, which perhaps might have been of value in sustaining respiratory and cardiac action had not the system been encumbered to the extent of paralysis of the nervous centers.

It is said by a distinguished writer on materia medica and therapeutics "that the stimulation of the vaso-motor centers by belladonna or atropia is not confined to the cardiac ganglia, but extends to the vaso-motor ganglia throughout the body and a general rise of blood-pressure takes place, owing to contraction of the arterioles. It is a singular fact that the influence of atropia rapidly produces a state of over-excitation, and the irritability of the vaso-motor nervous system at first increased, soon diminishes; the action of the heart becomes weak, the vessels dilate and the blood-pressure falls below normal. This statement is made in reference to the medicinal action of atropia, for he says: "In large medicinal doses this effect is easily seen." If this be true of atropia when taken in medicinal doses, it would materially damage its claim of antagonism in opium narcosis, when it is manifest that "the action of the heart becomes weak the vessels dilate and the blood-pressure falls below normal."

It is conceded by all observers that atropia, when taken in medicinal doses, primarily checks cutaneous transpiration, produces dryness of the mucous membranes of the nose, mouth, throat and larynx, and it may be that this action extends to the stomach, intestines, bronchi and pulmonary vesicles. Inasmuch as the function of excretion is most necessary to the maintenance of life, and atropia or belladonna, in its primary action, is possessed of the quality of checking the excretions of some, if not of all the most important emunctories, it seems reasonable that a therapeutic agent whose action checks transpiration would be of doubtful propriety, when the system contains noxious elements which must be eliminated by the organs of excretion before there can be a return to normal, and as these organs constitute the avenues by which the excrementitious products, containing the poisonous elements, must be eliminated, is it not pertinent to inquire if the primary action of atropia, by checking excretion, does not counterbalance the benefit likely to accrue from its stimulation of the cardiac and respiratory nervous centers? When belladonna or atropia is taken in poisonous

doses the primary action is not productive of sleep or narcotism, but excites delirious hallucinations accompanied by phantasms and spectral illusions. Yet when the hazard becomes great and the peril imminent, there is deep stupor and great muscular relaxation, with marked failure, both of the heart's action and of the respiratory forces, death being brought about by asphyxia. Therefore, when we consider the potential character of atropia for mischief, and the discrepancies of opinion that obtain as to the proper dose, and how far to push its administration to secure its antagonistic effect on the nervous centers, and its striking toxic similarity to opium toxæmiæ on the circulation and respiration, when there is imminent peril, must it not be considered an unsafe remedy, even in the hands of the skilled and judicious practitioner, and the propriety of its administration in this connection a question yet *sub judice?* Atropia holds such a prominent position as a physiological antagonist to the lethal principle of opium that many practitioners combine it with morphia for its specific protection when subcutaneously administered. This view is almost universally held as orthodox, and is perhaps due to the fulsome praises bestowed upon it by learned writers on materia medica and therapeutics. The time, however, has happily passed when the human mind is to credit the mere verba magistri or to place implicit credence in a scientific assertion without examination, because it proceeds from this or that individual. The rule of conduct implied in the language of the Roman satirist, "*Marcus dixit ita est*,"

> "Did Marcus say 'twas fact! then fact it is;
> No proof so valid as word of his,"

has been too much inculcated in all ages and no science has suffered so much from it as medicine.

We find in the recent works on materia medica and therapeutics that artificial respiration is recommended in opium poisoning, but is referred to *en passant* as an auxiliary to other means. I do not think it is held in sufficiently high esteem, as I am fully persuaded that this is the remedy *par excellance*, and better results may be expected from it when properly practiced than from all other known means combined. The practice of walking, flagellation, etc., could not have been of any value in the foregoing cases, as they were, without exception, in a state of total insensibility and profound

paralytic toxæmiæ, when first seen, yet they were all resuscitated, with the exception of the boy who had meningitis, and whose death was not attributable to the lethal effect of opium. I have been informed of several cases in which walking, flagellation, atropia, etc., were practiced, the patient being kept on the feet for hours, finally to die in a profound coma. It is manifestly apparent that in opium narcosis, the respiration being reduced to a low rate, and the heart-force being diminished, the blood being no longer sent through the pulmonary circulation with sufficient celerity, it becomes venous from defective æration, and another agent potential for mischief is superadded to the existing trouble, the blood becoming saturated with carbonic acid. The presence of this poisonous gas greatly increases the hazard, and to it must be attributed much of the failing circulation, embarrassed respiration and unconsciousness. This double profound narcosis is more rapidly produced when the erspiration is shallow, and the normal vital capacity of the lungs is not attained during the respiratory act. The carbonic acid and the lethal principle of opium must be eliminated from the system before we can reasonably expect a return to normal ; and the lungs constituting the principal avenue for its elimination, the respiration should be maintained as near the normal as possible to attain this desideratum.

When the vital powers are paralyzed from the combined lethal effect of opium and carbonic acid the right cavities of the heart and the large venous trunks are evidently distended with venous blood. In consequence of the diminished frequency of the respiratory movements the blood is imperfectly decarbonized and the capillary circulation of the lungs is impeded, the action of the heart weak and the resistance *à fronte* increased, and it is obvious that venous stasis must take place. For the removal of this condition nature has furnished the remedy in air, which is possessed of the vitalizing principle necessary to a continuance of respiration and the promotion of cardiac action, without which we shall be unable to relieve venous stasis and restore a patient from opium narcosis. When the vital powers are not equal to the task of carrying on respiration, and thus furnishing the necessary supply of air to decarbonize the blood and enable the system to expel the toxic elements, the desideratum being to perpetuate life until the excess of poison is eliminated or destroyed, and the patient beyond jeopardy, we can

by artificial respiration furnish the air which is so necessary with a most reasonable certainty of success.

Various methods for practicing artificial respiration are in vogue. I shall not enter into a lengthy discussion of their relative merits, but refer to them briefly. Marshall Hall's ready method for the resuscitation of the asphyxiated has resulted in very marked success. Dr. Hall says the following has been demonstrated by experiments innumerable: "that if the subject be laid prone, and pressure be briskly made on the back, there is good respiration; and that if the pressure be removed and the body turned on its side, and a little more, there is good inspiration; that if this pronation and pressure and this removal of the pressure and rotation be instituted alternately, there is good respiration." It is claimed that Sylvester's plan is of great merit and is more generally practiced than any others. It differ's from Hall's in the following: the subject is put on his back, the arms are grasped at the elbows and drawn above the head; then this manœuvre is reversed, and the arms are pressed against the sides of the chest; "this to-and-fro movement" to be repeated at will.

Dr. Benjamin Howard has described a plan which he claims is of great merit, but it and the Michigan method, which very much resembles his, are too complicated to be readily utilized.

Dr. T. E. Satterthwaite's plan consists in placing the person on the back in the horizontal position, and making pressure on the abdomen so as to force the diaphragm upward, pressing slowly at first, and then, suddenly forcing the air out, withdrawing the hand, the diaphragm descending, the lungs inflate with air. This plan is certainly possessed of the merit of simplicity, and doubtless would prove of much value if practiced as an auxiliary to other means. In practicing artificial respiration the necessity for keeping the mouth open and the tongue well forward is very important, for it would be fatal to success to allow the tongue to fall backward, close the glottis and shut off the entrance of air to the lungs. I will briefly state my method as practiced in the cases described in the beginning of this article. With the patient placed on a bed close to its side, the operator seating himself on the edge of the bed, partially behind the subject, who is lifted to a semi-erect position, resting partly against the left side of the operator, the head should be made to fall slightly forward and to the side opposite to the

operator, with the mouth open ; the tongue falls forward and the way is clear for the entrance of air to the lungs. Then, placing the hands respectively in the axillæ from behind, the shoulders should be lifted upward, outward and forward, and held steady until you can count three, then let the shoulders descend slowly, at the same time making gentle pressure on the chest to expel the air. This movement can be regulated at will, and when skillfully performed the ingress and egress of air can be distinctly heard several feet away. I am of opinion that by this method the vital capacity of the chest can be raised to the maximum and the full benefit of artificial respiration obtained. When a child is born asphyxiated and there is no mechanical o struction to breathing, and cold water has been dashed o n the face with a view of acting on the medulla oblongata through the stimulation of the terminal branches of the fifth pair of nerves, and friction, flagellation and other means usually employed have proved abortive ; if we expect to save the child we shall have to resort to artificial respiration as the surest means for resuscitation. Insufflation is the only other method worthy of mention in this connection, and consists in blowing air from our lungs into the mouth of the child, using at the same time the precaution of closing the nostrils of the child. After each inflation the chest should be gently compressed in order to expel the air from the lungs.

The faculty of resisting asphyxia, that is, of living without breathing, is very much greater in the new-born infant than in the adult ; so, if a child should not breathe for a long time, it should not be abandoned and considered beyond remedy ; for it has been demonstrated that life may be restored, even after the heart has ceased to pulsate for several minutes, Josat and Brachet placing the limit at five minutes. It is worthy to be remembered that the asphyxiated infant should not be kept near a fire, for the colder the temperature of the air, the longer can asphyxia be resisted. I have had some very interesting experience in the resuscitation of asphyxiated new-born infants.

I will briefly state a case of recent occurrence of a most remarkable character :

February 13th Mrs. G., in her second pregnancy, had footing delivery, with retention of head at pelvic brim ; the funis came down with feet and ceased to pulsate. There was delay in the

delivery of the head, which was due to two causes: first, the hands were placed above the head, with the elbows resting on the pelvic brim, which condition had to be rectified; second, the pains were slow and ineffectual, necessitating a second interference for the delivery of the head. The delay from the time of cessation of pulsation in the umbilical cord to the final extraction of the head must have been fully thirty minutes. The father, to whom I announced that the cord had ceased to pulsate and that the child was dead, said he observed the time and that it was above thirty minutes before the delivery was accomplished. The child was pallid, with shrunken features, and the funis flaccid and devoid of circulation, it being cut before tying, no blood escaping. I made no attempt at resuscitation by the ordinary methods, but resorted at once to artificial respiration by insufflation. In three and a half minutes I could distinguish feeble heart-pulsations. It was forty-two minutes before there was an attempt at respiration, and an hour and fifty minutes' constant attention was necessary to preserve the child's life. This case, so far as I am informed, is without a parallel, with the single exception of the case reported by J. Foster Jenkins, M.D., in which the funis was pulseless for twenty-five minutes before delivery, and no attempt was made at respiration for thirty minutes after birth, more than two hours' strict attention being necessary to perpetuate the child's life. These cases come in direct conflict with the opinion so emphatically expressed by Sir Benjamin Brodie, who wrote in his "Lectures on Pathology and Surgery": "If the action of the heart, by which the circulation is maintained, should cease as a consequence of suspension of respiration, it can never be restored. This I positively assert after having made it the subject of a very careful investigation."

In conclusion, Dr. J. M. Hays, who is present, informs me that, while an interne at the Charleston Hospital, he witnessed a case of pulmonary emphysema produced by artificial respiration in the endeavor to resuscitate a still-born infant, and that the post-mortem demonstrated rupture of the pulmonary vesicles. This was evidently the result of too forcible inflation, and demonstrates the necessity for observing caution lest we destroy our chances for preserving the life of the child.

Since meeting with my friend and neighbor, Dr. Picöt, he has called my attention to an article by Dr. John Arthur Francis in the Philadelphia *Medical and Surgical Reporter* for May 15th of this year,

in which he describes what he calls a simple method of artificial respiration. It is this: The body having been laid on the back, with clothes loosened, mouth and nose wiped, two persons pass a narrow lever of any kind under the body at the level of the waist and raise the body till the tip of the fingers and the toes of the subject alone touch the ground; count fifteen rapidly, then lower the body to the ground and press the elbows to the sides, counting fifteen again, then raise the body again for the same length of time, continuing these movements until respiration is restored. The arms and legs are to be allowed to dangle freely when the body is raised.

MULTIPLE FŒTATION—TRIPLETS.

By W. L. Crump, South River, N. C.

(Read before the North Carolina Medical Society, at New Bern, May 21, 1886.)

In the records of 37,441 cases of accouchement that occured at La Maternité, in Paris, says Cazeaux, "there were only 5 cases of triplets"—one case in about every 7,490 labors. Having been so fortunate as to attend one, and observing some interesting features connected with it, other than its extreme rarity, I am encouraged to submit the following report:

Case.—I was called, about 3 P. M., of the 22d February, 1886, to attend Mrs. E., whom the messenger informed me was in labor. As I was in the act of starting to a similar case, it was impossible for me to see her, so I referred the messenger to another physician. I heard no more of the case until the 26th, when her husband came for me to see her, saying that his wife had not been confined on the 22d, and was very uneasy concerning herself. I called and gathered

the following history: That this was her second pregnancy, with an interval of four years and five months since the first, when she gave birth to twins. Had been married five years; aged 38 years. On the return of messenger (who had been sent for me on the 22d) they had procured the services of another physician, who arrived about dark of the evening of same date. After an examination, he informed her that she was in labor, but as it would be sometime before labor would come off, he would give her a large dose of morphia, and thereby enable her to procure a good night's rest. She took the drug and slept well until the following morning, when, her pains being very slight, the physician informed her that the labor had been suspended, and directed her to send for me again whenever it was reinstated. After gathering the foregoing history, I proceeded to an examination, and was immediately struck by her enormous size and the uniformly smooth surface of the abdomen presented to the touch—no inequalities whatever being appreciable. It seemed to me that the distension of the abdominal walls could not have been a degree more without a rupture ensuing. She was, at this time, complaining of pains throughout the abdominal region, that were evidently due to the extreme muscular tension. She informed me, further, that she had felt no fœtal movements since she had awaked from the effect of the morphia. Requiring her to remain in bed and to maintain a recumbent posture, with knees drawn up to relieve, as much as possible, the muscular tension, I prescribed a placebo, and directed her to send for me again when necessary. On the following Sunday morning, 28th February, I was summoned to her in haste. Just as I stepped into the room the membranes ruptured spontaneously, and at 10:30 o'clock (fifteen minutes probably after rupture of membranes) the first child was born—dead. External examination, now, showed but very little diminution in size of abdomen, and on passing my finger into the vagina, I could barely reach the membranes of the second child intact and high up in utero. In a short time the uterine contractions began anew, and, after waiting about twenty-five minutes, the second sac was easily ruptured by the finger, and the second child was born—dead. I again placed my hand on the abdomen and found it still too large. I thought, however, that the want of subsidence must be due to the placentæ, which were probably unusually large. In five or ten minutes, however, the

uterine contractions began the third time, with markedly less vigor, though, than after birth of first child, and, on passing my finger as far as possible into the uterus, I was astonished to feel the flaccid membranes of a third child presenting themselves. The uterine contractions continuing feeble, and finding it impossible to rupture the membranes with the finger, I inserted a sharp-pointed probe into the sac, and let off the water. At 11 : 30 o'clock the third child was born—dead. In a half hour the placentæ—one for each child, with separate and distinct membranes—were delivered without any difficulty, thus completing the labor.

RECAPITULATION.

	Age.	Weight.	Confinements 2.	Interval bet. 1st and 2nd Confinements.
Mother's.	38 yrs.	120 lbs.	1st Twins.	4 years and 5 months.
Father's.	26 yrs.	130 lbs.	2nd Triplets.	

SALIENT POINTS IN SECOND LABOR

	Presental.	Sex.	Weight.	Hour.	Rupture of Memb's.	Condition of Children.
1st Child..	Breech.	Boy.	5 lbs. †	10.30.	Spontaneous.	Dead.
2nd Child	Head.	Boy.	5 lbs.	11.00.	Finger.	Dead.
3rd Child	Breech.	Girl.	4 lbs. †	11.30.	Probe.	Dead.

Remarks.—There are several points of interest connected with this case worthy of more than a mere passing notice.

I. The Placental Development.

In this case we find three separate and distinct placentæ—one for each child—and each having, independent of the others, a complete set of membranes. One placenta, with its membranes, is entirely separate and apart from the others, whilst the remaining two seem, at the first glance, to be one common after-birth for two of the children. On close examination, however, a fibrous union between the two can be traced, and it is very evident that they have no other connection with each other than this, and that they are in reality separate and distinct. The chorions of these two placentæ are merely in intimate apposition, and can be easily separated without tearing or other injury to their individual entirety. Now, this individuality of the

placentæ and membranes presents an anatomical anomaly of such unusual occurrence that I am unable to find a similar case recorded.

Cazaux reports two cases only of a like nature. One, that of Dodd, reports the placentæ consolidated into one, with a common chorion for two of the children, while the third child had a separate one; in the other, recorded by Davis, the three fœtuses had a common decidua, with a common chorion for two of the children and a special one for the third child.

II. Ovulation.

We have here, as is shown by the disposition of the membranes, a rare specimen of multiple ovulation. M. Guillemot, who has particularly studied the subject of multiple fœtation, formulates four distinct varieties of the disposition of the membranes in such cases. The two first varieties, only, are of interest to us in the study of this particular case. He (Guillemot) says—and here he is speaking of twin pregnancies, but the application of the rule to cases of triplets is natural: 1. Two ovules are fecundated and each embryo is developed and is surrounded by its own proper membranes. 2. The ovule has two germs, though each fœtus has but a single envelope, the chorion being a common membrane. The cases recorded by Davis and Dodd were a combination, as respects their ovulation, of these two varieties carried by nature one step further and made to apply to triplets, thus: in both cases there was a common chorion for two of the children, formed according to Guillemot's second variety from a double ovule, and a special chorion for the third child, formed according to first variety from a single ovule. Now, applying this rule to this particular clinical case, it is evident that there must have been an expulsion of three separate ovules at or near the last catamenial period, and that each ovule developed its own proper membranes, thus laying at the first step of gestation an anomalous foundation for this most anomalous case. Further, it is fair to conclude that both ovaries must have been engaged in the process of ovulation at the time, for it is highly improbable that one ovary could mature and expel so many eggs at one time.

III.

Having briefly reviewed the salient points in this case which characterize it as an anomaly, we come to the consideration of the most practical and important feature, which is embodied in the speculation

as to the probable cause of the death of these fœtuses. It will be remembered that there were fœtal movements perceptible to the mother just prior to the administration of the morphia (given by the physician, who supposed her to be in labor on the 22d of February), and from that time to the delivery of the dead children, there had been no movements perceptible. I wish to relate here a personal clinical experience. I was once called to a woman in labor, and, finding it in the initial stage and progressing slowly, I pursued the common practice of administering an ordinary dose of morphia by mouth. The drug was given about 8 or 9 o'clock P. M., and just before the administration of the same fœtal movements were plainly perceptible to my own sense of touch. The mother procured several hour's rest, and was delivered, about 7 or 8 o'clock of the following morning, of *twins*—dead.

I could find no rational cause for their death at the time—the possibility of the morphia being a factor not occurring to my mind then, nor until I met with similar results after its administration in this case of triplets. No more than "the coming of one swallow makes a summer" does the report of these two cases establish a new clinical truth or controvert an old, accepted theory, yet they surely serve as significant data for rational speculation, and suggest the practical query: In suspected multiple fœtation is the administration of morphia to the parturient woman good practice or safe? There are several facts in support of the negative of this question worth consideration.

1. *Children of Multiple Fœtation are of Diminished Vitality.*—The natural law of reproduction is the generation and development of *one* fœtus, and if the generative supply intended by nature, under this law, for the development of *one* fœtus is distributed amongst *three* children, it necessarily follows that the individual members of the three must be in a state of diminished vitality, and by parity of reasoning this is applicable, in a less degree only, to twins.

Vital statistics in regard to triplets well attest the truth of this proposition. I have been unable to find a single authentic case of triplets in which all of the children lived, and but one in which any of the children lived more than a few weeks. They almost always die in a few hours after birth from an apparent want of vital resistance.

2. *Children in Utero are Susceptible to the Action of Poisonous*

Drugs.—Dalton says in his "Human Physiology," page 761: "Even medicinal substances, taken by the mother, may transude through the placental vessels, and thus exert a specific effect upon the fœtal organization."

Cazaux records cases in which poisonous drugs, taken by the mother, were found by analysis in the body of the fœtus. It is unnecessary to add quotations of a similar nature from other authors to sustain the truth of this second proposition. Its practical application to this case is easily made thus: The morphia was taken into the blood of the mother in a state of solution, and a portion of it was carried into the placenta, and transuded thence through the thin walls of the maternal vessels and umbilical radicles into the fœtal circulation, by which means it entered the bodies of the three fœtuses. Now, this poison must of necessity have remained in the bodies of the children a sufficient length of time to have endangered life, for it could only have been eliminated from the system, in the main, by means of, and through, the return of circulation, and the very force, the fœtal heart, which insures this means of elimination is especially susceptible to the action of this particular poison. According to Bartholow the effect of a lethal dose of opium on the heart is "to produce a slow and feeble action or a rapid and feeble action, and finally paralysis of the organ." In consequence of the resistance *a fronte*, by reason of the number and curvatures of the umbilical arteries and the diminished actoin and loss of power of the fœtal heart *a tergo*, a venous stasis must result, thereby furnishing conditions most favorable to the deleterious action of the poison on the fœtal structures—notably the heart. resulting in paralysis of that organ and the death of the fœtuses. Coupled with these conditions we find another in the pre-existing want of vitality in the children themselves, which, alone, placed them in a position to offer but feeble resistance to a poison so inimical to early life. Bartholow says: "Especially is the susceptibility to its (opium) action great in early life." Now, if these deductions are true, then has the negative been sustained, and we can embody a practical truth in the following formula: In suspected or diagnosed multiple fœtation, the administration of a salt of morphia to the parturient woman is fraught with extreme danger to the children.

THE DRY TREATMENT OF CORPOREAL ENDOMETRITIS.

By S. D. Booth, Oxford, N. C.

(Read before the North Carolina Medical Society, at New Bern, May 21, 1886.)

For many years I have thought that a great improvement might be made in the treatment of inflammatory affections attacking the lining membrane of the unimpregnated and non-puerperal womb, could we safely and easily apply our curative remedies in a dry and powdered form.

The advantages to be gained by such means of applying remedial agents are numerous and obvious. The difficulty in applying solutions or any medicines in a liquid form, freely and uniformly, has been met and recognized by every gynecologist.

The uterine syringe, in its varied forms and multitudinous devices, such as the reversed current, grooved and fluted tubes, double canula formations, and tubes within tubes, has been almost entirely discarded and laid aside as not only unsatisfactory in its operation, but a dangerous instrument, except in cases of abortion, when the os and cervical canal are wide open, giving easy and quick exit to the injected fluid. The most satisfactory way of making these applications has been by means of the flexible metal applicator, well armed with absorbent cotton, properly applied to its distal end and dipped into, and well saturated with the liquid, which is designed for the treatment of the case in hand.

The applicator thus armed may generally without trouble be carried through the os and cervical canal into the cavity of the body of the womb. The internal os, being, generally in cases of corporeal endometritis, wide open, it offers no more resistance to the passage of a probe or other instrument than does the cervical canal But when the cotton reaches the cavity of the uterine body the liquid is found to have wiped off, so that the fundus and walls of the organ are very slightly, if at all, touched by the medicine. To obviate this difficulty and remove this drawback to the successful treatment of the disease under consideration, recourse has been had to various means and devices with varying degrees of success. The cervical canal has been enlarged by means of tents made of sponge, laminaria, etc. Still the

operator often finds, to his disappointment and chagrin, after the removal of the tents, although the canal of the cervix and uterine os are capacious, its walls collapse and fall together. So that the cotton, in its passage through the canal, though not entirely deprived of its contained liquid, as in undilated cases, has been rid of the medicine on its exterior, and the corporeal endometrium receives but a scant supply of the liquid so much needed in that especial locality.

The uterine dilator has been used by some very eminent gynecological surgeons to separate the walls of the cervix, while the applicator is being passed. The closed blades of this instrument are pushed into the cervical canal until their points have reached the internal os; then the handles are pressed together until the blades are separated sufficiently to allow the easy passage of the applicator between them. This arrangement is better than that of the tents; but those parts of the uterine walls which are covered by the blades of the dilating instrument are not touched by the medicine, and there is not such an excess of the fluid left on those parts which are accessible, to admit of their supplying the needed remedy to the covered portion after the blades of the dilator have been withdrawn.

By far the best and most thorough means of application is one which I had been pursuing for some years, and afterwards saw recommended by Dr. Mundé in his valuable book on minor gynecological surgery. That author uses a silver or gum-tube one-fourth of an inch, more or less, in diameter, and eight or ten inches in length, by introducing one end into the uterus and then passing a small applicator through it. Simply a male gum catheter cut off at the small end answers very well. I generally carry two or three sizes of catheters cut off ready for use in my instrument-bag. I also carry some small white-oak "applicators," which can be carried entirely through the piece of catheter. After introducing the catheter I wrap absorbent cotton securely around the little white-oak split, and, after soaking it in iodine, phenol, or whatever medicine I wish to use, I carry the split through the catheter up to the fundus of the uterus; then I withdraw the catheter over the split, leaving it with the cotton and medicine in the uterine cavity. After allowing it to remain a few minutes until the contractions of the uterus set up by the presence of the medicine have ceased, I withdraw the split and cotton. In that way the medicine is freely

and fully applied to the inflamed endometric membrane, but still the results are rarely satisfactory. The medicine already in solution is greatly diluted by the uterine secretions, whose flow is augmented by the irritant effect of the medicine, so that, in some instances, unless the medicine is absolutely cauterant in action, it is washed or carried off before any considerable alterative effect can be produced. Should the remedy be one of the metallic salts, especially the nitrate of silver, its chemical constitution will be so changed by contact with salts contained in the secretions, that in many instances it becomes almost totally inert. Under any circumstances, medicines applied in a liquid form to the lining membrane of the uterus rarely ever remain in contact with the diseased tissues a sufficient length of time to produce the amount of effect which we desire, unless the parts are cauterized.

Every gynecologist will admit that many gentle sufferers have been relieved and a large number of ladies with undoubted endometritis have been cured by the ordinary means of applying remedies in a liquid form to the lining membrane of the body of the womb, yet, as an established means of treatment, we must all acknowledge that it has not been satisfactory. Just at this time medical men seem to be waking up to the probable advantages which may be derived from the "*dry treatment*" of uterine troubles.

In the last few months I have seen in the journals various allusions to the subject, but no author, so far as I know, has suggested a way, or given the remotest hint at a possible means of applying dry medicines to the membranes lining the cavity of the body of the womb. Numerous practitioners have thrown or sprinkled medicines in a dry and powdered form into the vagina, and one writer in the *Journal of Therapeutics* speaks very highly of the treatment of all inflammatory affections of the unimpregnated womb by means of dry medicines applied to that organ on cotton left in the vagina. I was surprised at the enthusiasm of the writer, and regret exceedingly that I mislaid the paper containing the articles, because I failed to understand how the inflamed endometrium could be so immensely benefited through the agency of a remedy thus applied, for it is certain that the remedy could touch no part of the lining membrane of the uterus except that part which is contained in the vaginal vault. Still, as I indicated at the

outset, there are great advantages to be derived from the direct application of various medicinal agents to the inflamed endometrium. The strength of the remedy can be better controlled, it will remain in contact with the inflamed surface much longer, its chemical constitution is less subject to be altered because it meets with the uterine secretions more gradually and proportionally in smaller quantities. It also separates the inflamed surfaces, and for a considerable time keeps them from contact with each other, which is no small consideration in the treatment of inflamed serous or mucous surfaces. In this way we can avail ourselves of many valuable agents, which cannot be utilized in any other way because of their slight solubility. For instance, bismuth and the powdered chlorate of potash, as well as various others. Now, the question is how to apply these valuable and useful, as well as innocent and pleasant medicinal agents, to the inside of the walls and to the fundus of the uterus in a dry and powdered form, and at the same time with perfect safety? I began the experiment a few years ago by rubbing together subnitrate of bismuth with the nitrate of silver—12 parts of the former to 1 of the latter, and putting this powder into the end of a catheter previously cut off at the small or front end with an ordinary gelatine capsule filled with the same material and slipped over the end. After carrying the loaded capsule through the os and cervix and up to the fundus, it was an easy job to push the medicine out at the end of the catheter by means of a wooden rod, having a shoulder cut a distance from the end corresponding with the length of the catheter. In this way the medicine and capsule are left in the uterine cavity, and the rod of wood thus guarded and arranged cannot possibly wound the uterus. Some cases did remarkably well by this means of treatment, but if the uterus chanced to be very irritable, considerable harm was done to the sensitive membrane before the capsule had time to dissolve, and occasionally I found that the capsule was so slow in dissolving that the medicine was by no means equally distributed over the uterine cavity, and in some of these cases, the medicine and capsule were forced away very little altered by the action of the uterine secretions. I was trying to invent some better and safer means of applying these powdered medicines to the cavity of the womb, when about a year ago, I noticed in the houses of many of my

patients a very ingeniously constructed arrangement for throwing "*insect powders.*"

By means of this arrangement I noticed that the powders could be thrown, not only into the various corners and crevices of the chamber, but also into the small cracks and crevices about the furniture and bedsteads, following and destroying vermin and small insects in their narrow hiding-places.

It occurred to me, forthwith, that this little apparatus might be utilized in accomplishing the object which I so much coveted and which had, up to this time, foiled my inventive efforts.

This little machine is not unlike a small oil-can in appearance. It is simply a small tin box about the size and shape of those which we have so often seen serving the purpose of holding "Mason's" blacking. It has a spout fastened to its edge, and through this spout the powders are forcibly and easily thrown when the top is pressed upon. There is more in the construction of this tin box than we might suppose at first sight. The top is made partly of metal and partly of leather; in the center of the top there is a metal plate about the size of a silver half dollar. To the edge of this piece all around is fastened leather which extends, and is fastened to, the edge of the box. A spiral spring sets on the bottom of this box and extends to the plate in the middle of the leather top. When this box is taken into the hand and the thumb placed upon the metal plate in the top, you only have to press, and the powder in the box is forced out through the spout; remove the pressure and the spiral spring on the inside forces up the top again, and the box receives air through the spout and becomes inflated again. At the bottom of the box there is an aperture for the admission of powders. This aperture is stopped with tin-covered cork when the box is used.

In using this box, I have retained the male catheter as a uterine tube through which the powders are conveyed from the box to the uterus. By this means, there is no trouble in throwing the powders into the uterus, but the spout has to be withdrawn from the catheter at each stroke of the apparatus, otherwise the uterine secretions are drawn into the catheter, and, mixing with the powdered medicine, a thick, doughy plug is formed, which is removed from the catheter with great difficulty, even after it has been withdrawn from the uterus. Could the box receive air in any other way, the spout

would still have to be withdrawn from the catheter at each stroke, otherwise the uterus would speedily become inflated, and air would be forced through the fallopian tubes, carrying with it unhealthy spores, causing innumerable troubles; because the walls of the cervical canal closed around the catheter would offer more resistance to the imprisoned air than would the unobstructed fallopian tubes.

On account of these obstacles and hindrances, I was not satisfied with my discovery, but had to make only one more step to construct an apparatus which would throw an unlimited quantity of powdered medicine into the uterine cavity and cause the accompanying atmospheric air to escape at each stroke of the instrument.

Attached to the new apparatus, at its posterior edges, is a piece of gum-tubing, containing a closely-fitting valve; through this it gets its air, instead of having to receive it through the spout. The top is part leather, with a metal plate in the center, similar to the old one, and the same spring arrangement obtains on the inside. Instead of having the box round, it is conical, with a rounded base. By making the front in the shape of a cone the angles and corners are dispensed with, and the flow of powders from the box to the uterine tube is unobstructed. Attached to the box, at the apex of the cone, and extending from that to the uterine tube, is a piece of gum-tubing 2½ inches long. In this tubing there is a good tight valve, which works in an opposite direction from the valve which admits the air. When the top is pressed down, this valve is thrown open, and the powders pass from the box to the uterine tube, but it closes when the pressure is removed; so that, while the box is being inflated through the agency of the posterior valve, no suction can take place through this front valve, and consequently no moisture can be drawn from the uterus into the tube. The uterine tube is 9 inches long. The main pipe is a little less than $\frac{1}{8}$ of an inch in diameter; then there are two small lateral pipes, one on each side of the larger one, 1-16 of an inch in diameter. These small lateral pipes begin at the distal end of the other, and extend only half its length. Through these small lateral pipes the air escapes at each stroke of the box, from the middle to the uterine end of the pipe. This triple arrangement gives it a flat appearance, and the entire triple structure is less than $\frac{1}{4}$ of an inch wide, and not $\frac{1}{8}$ of an inch thick, so it can be easily passed through any ordinary cervical canal

when the disease under consideration exists. The uterine pipe is connected to the tubing by means of slip-joint, so that it may be detached from the apparatus each time that it is to be introduced. Then, instead of having to go through the awkward operation of securing the box to the pipe, you have only to slip the smooth, well-fitting end into a socket already prepared for it. I have made my article too long, or I would enumerate a number of troubles, in the treatment of which my "*Endometric Duster*," or uterine dry syringe, might be used with great advantage. I will, however, just allude to the fact that some forms of vaginitis yield to this dusting arrangement more readily and surely than to any other treatment at my command.

There is a form of eruptive vaginitis in which the whole vaginal mucous membrane, including the lower portion of the cervix uteri, is covered with little pimples. This form of trouble is generally attended with a most provoking and ceaseless itching of the vulva, and the ordinary remedies seem to have scarcely any tendency to modify its harassing existence. I have known a single dusting over of the upper part of the vagina with a mixture of one part of nitrate of silver and twelve of bismuth, or bismuth alone, to the internal portion of the labia, to stop the itching and burning; and a second application made in like manner to cure the case entirely. This condition of "pruritus vaginæ" is not an uncommon attendant upon endometritis, and no other complication of that disease gave me so much trouble until I adopted the dry treatment; but now I dread it no longer. I have treated a few cases of gonorrhœa with the powder-thrower, and with marked success. In one case I used salicylic acid and morphia. It was quite powerful, but did not excite inflammation, and a marked improvement followed its application. In a small number of cases I have used bismuth, 30 parts, argenti nitras, 1 part, morphia sulphate, 2 parts, and these cases recovered more rapidly than I have known the disease to do under any other treatment; however, care must be taken that air is not thrown into the bladder, for the urine will be decomposed and cystitis set up, as I have seen happen in one case. While I am digressing, I must state that dysentery, in its early stages, might, with great advantage, be treated with this dusting arrangement. Nothing could be more salutary in its effects, it seems to me, than a thick coating of bismuth, containing a small amount of morphia,

sprinkled over the inflamed and irritable mucous membrane of the rectum, as the disease is confined almost exclusively to that locality in its inception.

Before closing, I wish to say that nothing could be more appropriate in the treatment of endometritis, when the parenchema of the uterus is involved to a degree of "hypertrophic engorgement," than the red iodide of mercury; yet I have not used it in such cases, because I consider it too violent in its action undiluted or modified, and I can think of no pulverizable agent with which it is not incompatible. In all those cases of corporeal endometritis which are attended by a purulent or muco-purulent flow from the os, as well as the cases which have a hæmorrhagic tendency, iodine or the iodides freely and frequently applied act more speedily in bringing about a favorable result than any other class of remedial agents which I have used in those troubles. But in those cases in which we see a glairy mucus, looking like the white of an uncooked egg, running from the os, and when little tenderness is manifested in passing the uterine sound, nothing has acted so well and with such gratifying results as the chlorate potash, rubbed to a fine powder and sprinkled freely over the membrane lining of the body of the womb.

We not infrequently meet with disappointment; visit our patient until we are ashamed to go any longer, and leave her very little improved by using too much sameness in our treatment. We select a remedy which we consider excellent as an application in cases of chronic endometritis, and treat every case of this form of trouble with it. Some get well speedily, some slowly, and others are very little, if at all, improved. If we would discard this habit of routine practice into which almost all practitioners are liable to fall, and select our remedies with an eye single to the character of the case in hand, we would be much better satisfied with the results of our practice.

If the treatment of "corporeal endometritis" by means of dry and powdered medicine applied locally to the lining membrane of the body of the womb, proves to be as efficacious, as I have reasons to hope that it will, through the agency of the little apparatus which I have presented, the disease in question will no longer be the "scare-crow" it has been to many physicians; and a large class of cases which we have been satisfied to relieve and comfort a little in the past, may, in the future, be altogether relieved and cured.

REPORT OF THE CHAIRMAN OF THE SECTION ON MEDICAL JURISPRUDENCE.

By J. D. Roberts, M.D., Goldsborough, N. C.

(Read before the North Carolina Medical Society, at New Bern, May 21, 1886.)

Mr. President and Gentlemen of the North Carolina State Medical Society:

As this is the first report to this Society from the Section of Medical Jurisprudence, I have thought it better to lay before you some general thoughts on the question, together with facts in regard to the relation of the physician to our State laws, rather than give the advances made in this special department during the past year, as it is done with the other sections.

Medical jurisprudence, or its synonymous terms, forensic medicine and legal medicine, is a broad term and covers much ground. It can properly be made to include all and every occasion or circumstance where the doctor, in his professional capacity, comes in contact with the laws of the country. Recourse has been made to the physician for help in the interpretation and solution of phenomena in his special department since the dark ages; and, as we come down through the course of time, we find him growing of more and more importance to the courts as civilization advances and chaos is reduced to order, until, within the past century, medical jurisprudence has assumed the position of a science.

Composed of two great professions, it rarely receives the amount of attention its importance merits, from the members of either, and it is for this reason that Dr. McDuffie, in his presidential address last year, urged the necessity of forming this new section in our State Society.

For want of time and space, in a paper of this character, I shall not attempt to cover, even partially, the ground occupied, and shall leave the whole matter of State medicine and public hygiene to the Board of Medical Examiners and State Board of Health, each of which has been doing such excellent work in its special department during the last few years.

Confining myself to forensic medicine in North Carolina, as I propose to do, to a great extent, the subject of malpractice suits, so much dreaded in some sections, can be dismissed with but a remark, as I do not find a single statute or Supreme Court decision bearing on the question. This I consider quite a compliment to the profession, as it shows that there is no need of such a law, or one would have been enacted.

The question of most interest to us as physicians, in relation to the law, is perhaps our prerogatives as witnesses on medical questions, and how such testimony is received. That the medical witness is placed at a disadvantage in the courts, no one acquainted with the facts will deny. He is out of his chosen element—is to testify of matters but little understood by the court and less by the jury, and, though reading and thinking in a technical manner, is expected to testify in a different vernacular. As little as our legal brother may understand what we say, it is always to the interest of one side to distort what is said, and to effect his purpose he will cross-question, badger and try in every way to confuse the witness. Knowing beforehand what it is he wishes to prove by the physician, or what facts he would like to suppress, he takes advantage of his position to shape his questions in such a manner as to gain his purpose, even at the expense of a seeming error on the part of the expert.

There is often a disposition to distrust the professional witness, especially the paid expert. Dr. Henry F. Cambell, in his address as president of the American Medical Association, 1885, relates an incident in the experience of a medical witness where this was exemplified, and where scientific investigation was ridiculed, as follows: "A woman was on trial for the murder of her husband by poisoning with arsenic, and a learned professor of chemistry and pharmacy in a medical college was the expert, who confirmed the other witnesses by finding arsenic in the stomach of the dead man. The defendant's attorney, an able lawyer, asked him a few questions, on cross-examination, all leading to this: 'Had he, as an analytical chemist, ever failed to find arsenic for the courts in suspected cases?' To which the doctor answered that it had so happened that his analysis had always established the fact of arsenic in cases where its existence had been circumstantially made out. In his argument to the jury the medical expert was alluded to as the arsenic-hunter

for his college, and a good one, too, since he always found it—that the credit of his college would suffer if he failed to find it, etc. The woman was not convicted." An analogous case occurred in this State a few years since, and was related to me by a friend of the legal profession, who was thoroughly conversant with the facts: "A man was on trial for murder by poisoning with strychnia. He was seen to give the deceased, a half-witted creature, a drink into which he had just put a white substance from a bottle. Almost immediately he was attacked with convulsions, and soon died with all the symptoms of strychnia-poisoning. Prof. Redd, at that time by law the expert for analyzing suspected poisons, testified that he had found strychnia in the stomach of the boy, and showed in court the salts of strychnia in a vial, which he testified to having reduced from the contents of the stomach. The jury rendered a verdict of not guilty, and the most intelligent man on the jury told his fellows that, 'when that chemist said he got that salt out of the dead man's belly he believed he swore to a lie.'"

We here see how the results of scientific investigations are treated in our courts. I regret to say that the treatment received by the physician on the witness-stand is often caused, either by himself or his professional brother. If the doctor shows himself a partizan, if he uses his professional knowledge and position for selfish ends, or if he testifies simply because he was paid to give evidence that way, he cannot expect to command the respect due an honorable profession. The members of our profession, too, so often show such culpable ignorance on the stand! The mistakes, the ignorance, the fanaticism, the bombast, etc., of one of the profession reflects, to a certain extent, on the whole. It is the duty of every physician going upon the stand to so prepare himself, and show such perfect knowledge of the subject under consideration as to command the respect of all parties. Much often hangs upon the expert testimony. The life of a fellow-being is in jeopardy, the orphan's inheritance is hazarded, the innocent are to be shielded from the oppressor, the guilty are to be punished for crimes, or the freedom of the party is involved. To labor against the popular prejudices of the day, to combat the errors and stem the tide of fanaticism, or to assail perverted opinion, is no easy task; but when duty calls and truth demands it, when our labors and investigations as scientists show us where the right and justice lie, there is no neutral ground

for us, nor should we hesitate at the clamors of those around us, but as true physicians hold the scales of scientific inquiry with an even hand, and show our labors to be impartial, let it strike where it will. By a straight-forward, honest course of this kind, we can do much to remove the blame that is now attached to experts.

One of the principal reasons of the distrust shown experts is that the legal man has not kept pace with his medical brother in the advances made in knowledge. Law is a science of dry facts, founded on precedent, and does not claim to be progressive. A question presents itself here as to how much responsibility rests on the courts for much of the poor medical testimony given. Under our laws any man writing himself M.D. after his name is entitled to the appellation of *expert* on any medical question, subject only to the discretion of the presiding judge, who is poorly qualified to pass on a question of which he knows almost nothing himself. Though the matter under consideration may be connected with some specialty, in the knowledge of which he is very deficient, he is called, and in many cases even forced, to testify.

Dr. Thomas J. Turner, Medical Director U. S. N., recently read a paper on medical evidence before the American Academy of Medicine in New York City, from a resumé of which I make the following extracts:

"The boundary line where ordinary testimony ends and expert testimony begins, is not always well defined. * * * "As regard opinions on medical questions, anyone at present may be permitted to testify, the question as to the special amount of knowledge being left to the jury to determine. It follows from this theory that there is no evidence which varies so immensely as so-called expert evidence. It has been decided that a medical opinion may be received as evidence, if it is based upon study without practice, or upon practice without study, and it has been ruled that it is not absolutely necessary that one should have studied or practiced medicine. * * * The test of the admissibility of opinion-evidence (which term Dr. T. prefers to expert testimony) seemed to the writer to be this: Has the expert witness any peculiar knowledge or experience upon the subject matter under inquiry of value to the court in determining the truth of the matters at issue? The degree of credence given to opinion-evidence should be founded upon the professional skill, the quickness of perception, the powers of discernment, the aptitude, the acquirements and

the education, as well as the experience and observation of the expert in the matters upon which his special expert knowledge arises."

Consider how many departments of the science of medicine are tasked for the purpose of elucidating questions before the courts. The chemist, with his crucible, reagents, tests, microscope, etc., the anatomist, the pathologist, surgeon, obstetrician, each department itself a specialty requiring all a man's time and talents for years to master—all these and many others have been and will be again needed to furnish knowledge in its special line for the use of the courts in arriving at the truth of matters before them. And yet our courts accept the testimony, and even demand it, of the young physician in any or all of these departments, though the ink on his diploma is hardly dry, or from the physician who has shown no aptitude or paid no particular attention to the specialty on which expert knowledge is desired. Before the courts the ignoramus, with his purchased diploma, the egotist, anxious to show himself or parade his learning, the miscreant, prostituting scientific knowledge by offering it to the highest bidder, and the painstaking, laborious searcher after truth, with his various accomplishments and years of study, are all classed alike as experts. Is it any wonder that the physician's testimony does not receive that credence which is due it?

Let our courts insist on having as experts those who are competent, by education, experience and observation to testify on the subject under inquiry, and better testimony, more reliable in every way, will be obtained, and the odium of the present state of medical testimony will be removed. Dr. H. C. Wood says he has "never personally known a serious divergence of opinion in medical jurisprudence which did not grow out of the ignorance or incompetency of one of the two sets of experts.

By insisting on the above rule, the humiliating spectacle of scientific men professing to gain their knowledge from the same course, swearing to different results, as is sometimes now seen in our courts, will be avoided.

An examination of the Supreme Court decisions of our State on the subject will show the principles governing expert testimony, some few of the more prominent ones of which I propose to discuss. Throughout the decisions we find the scientific attainments of the physician recognized, and while these decisions have not kept pace in all respects with the rapid strides made in medical progress, they show an appreciation of our labors far in advance of decisions in other States and countries.

As regards the *fees* of experts, Section 3,756 of the Code, last clause, reads as follows: "That experts, when compelled to attend and testify, shall be allowed such compensation and mileage as the court may, in its discretion, order." There is one Supreme Court decision on this question in which it is held that "one summoned as an expert in a criminal action is entitled to an extra compensation under the act of 1870–'71, chapter 139, section 133." (Code as above.) The fees being often quite a *desideratum*, especially when put to much expense in attending court. most writers on jurisprudence advise that this matter be arranged before going on the stand. So far as my experience goes the judges of this State are not parsimonious in allowing fees.

The physician's attainments are recognized in diseases other than the human family, one decision holding that his testimony is admissible in diseases of animals, "when he swears that he is enabled to form an opinion from his reading, observation, etc., of the disease in question, though he has not made diseases of stock a special study." How far the analogy between diseases of man and the lower animals extends, or how great the similarity, I will not stop to discuss. Under the above quoted decision it is left with the witness as to his willingness to swear to the diagnosis, and of his competency and the degree of credibility to be given his testimony, under any circumstances, is a question for the jury. In State vs. Clark, Chief Justice Ruffin rendering the decision, says that "the effect of the evidence is, of course, to be decided by the jury." In the same decision the following language is used in regard to expert testimony: "Authorities need not be adduced to show that it is an established rule in the law of evidence that, in matters of art and science, the opinions of experts are evidence touching questions in that particular art or science. The rule is founded in necessity, because persons of ordinary avocations, including jurors and judges, are not generally capable of judging correctly upon many questions which must be determined in order to guide the decision of a legal controversy, and which depend on scientific knowledge or skill in art. * * * At all events, when professors of the science swear they can thus distinguish, it would be taking too much on themselves for persons who, like judges, are not adepts, to say the witness cannot thus distinguish, and on that ground refuse to hear his opinion at all. By such a course the judge would undertake, of his own sufficiency, to determine how far a particular science not possessed

by him can carry human knowledge, and to determine it in opposition to professors of that science. That course would subvert the principle on which the rule of evidence is founded, and exclude the evidence in all cases, since in truth its utility depends on having the aid of men of science at that point at which it is necessary to supply the deficiency in the knowledge of those who are not experts."

Before pursuing the subject further, it might be well to define what the law means by an expert, and for this purpose I copy from Chief Justice Smith in Flynt vs. Bodenhamer: "An expert is defined by Worcester, following Burrill, as 'a person having skill, experience or peculiar knowledge on certain subjects or in certain professions'; and by Bouvier as 'one instructed by experience.' The court must decide whether the witness has had the necessary experience to enable him to testify as an expert. But the value of his opinion when, admissible, must be determined by the jury alone, and depends upon the opportunities he has had for acquiring skill and knowledge, and the use he has made of those opportunities. * * * But the opinion of a well instructed and experienced medical man upon a matter within the scope of his profession and based on personal knowledge, is, and ought to be, carefully considered and weighed by the jury in rendering their verdict."

In the syllabus of this case it is held that a physician of thirty years practice is an expert. The first impression received here is that this is true. Certainly thirty years study and observation of any subject should qualify a man to speak with authority on matters connected with such subject. Yet the principal element or factor in forming the expert is lost sight of. Thirty years in the practice of medicine does not, and will not of itself, make an expert in insanity trials. From the very nature of the case it is possible to reduce his qualifications to a term of years. His opportunities for observation, aptitude for learning, powers of discernment, etc., must all be considered in summing up what it takes to make an expert.

Hearsay evidence is not admissible under any circumstances, and opinions based on the truthfulness of another witness' testimony is not allowed as expert evidence. The opinions must be founded either upon facts within the personal knowledge or observation of the report, or upon the supposition or hypothesis that the jury will accept the testimony of witnesses as to facts as true.

It is this principle of law that requires the use of hypothetical

questions. As much as this form of examination is abused, and as many objections as there are to it, it must still be used for the want of something better. Chief Justice Smith, commenting on expert evidence, says: "The opinion of those who are skilled in any department of art or science resting upon undisputed facts and within the scope of their special calling, are not only competent to be heard by the jury, but often greatly assist in the formation of a correct judgment upon matters they are called on to investigate. The superior knowledge of the expert is frequently required in the conduct of judicial examination of subjects beyond the reach of common observation. But this evidence has its restrictions, and must never be allowed to invade the rightful and exclusive province of the jury in drawing their own conclusions from the testimony, of the credibility of which they alone must judge. It is their duty to hear and pass upon the evidence, and the expert's opinion is admitted only to aid in performing that duty." In this connection the rule for the examination of experts as to the proper form is laid down, and is hypothetical, before alluded to, the general form of which is as follows: If the jury find certain facts deposed to by witnesses to be true, what is the expert's opinion of those facts? Many decisions sustaining this form of examination from other States are cited and approved.

In the department of psychology the law is farther behind medicine than in perhaps any other specialty of the profession. It has long been considered a difficult, if not almost impossible, matter to harmonize the two professions on the subject of insanity. Ordinarily the opinion of the physician on subjects connected with his profession is accepted by the courts, but on the subject of insanity acknowledged as one of the most difficult branches of medicine, requiring for its study a high order of intelligence and intellect and long years of close application, anyone is allowed to testify, and the opinion is accepted, though the witness may have never seen a case of insanity.

In insanity trials our courts have certainly made haste slowly. No one deprecates the wrong done to law and order, to society and to our own profession by the "insanity dodge" more than I. That it has worked injury in some States cannot be denied, and I would not advocate the plea to the extent that it is carried by some psychologists.

The great difficulty is how to define insanity. The law attempts to make a cast-iron rule and require every case to fit it. Precedent has more weight than the facts in the case, and if the facts do not tally

with the musty decisions of by-gone days, they are not recognized as carrying any weight. The jurist and the physician look at the matter from two stand-points almost diametrically opposed to each other. Medicine is a progressive science, broad and catholic in its base. The law does not claim to be progressive, but is largely made up of precedents.

On this subject, Mr. Justice Doe, of New Hampshire, says: "When the authorities of the common law began to deal with the subject of insanity, they adopted the prevailing medical theories. * * * Without and conscious or material partition between law and fact, without a plain demarcation between a circumscribed province of the court and an independent province of the jury, the judges gave to juries on questions of insanity the best opinions which the times afforded. In this manner opinions purely medical and pathological in character, relating entirely to questions of fact, and full of error as medical experts now testify, passed into books of law and acquired the force of judicial decisions. Defective medical theories usurped the position of common law principles. The usurpation, when detected, should cease. The manifest imposture of an extinct medical theory, pretending to be legal authority, cannot appeal for support to our reason, or even to our sympathy."

Legal insanity in this State, in a charge by a superior court judge (Green), and endorsed and commended to the other judges by the Supreme Court, is thus defined: "That if the prisoner, at the time he committed the homicide, was in a state to comprehend his relations to other persons, the nature of the act and its criminal character, or, in other words, if he was conscious of doing wrong at the time he committed the homicide, he is respodsible. But if, on the contrary, the prisoner was under the visitation of God, and could not distinguish between good and evil, and did not know what he did, he is not guilty of any offence against the law, for guilt arises from the mind and wicked will." Following precedent and the established order of things for generation after generation, because, perhaps, this way was good enough for our great-grandfathers, it must be all right for us, our courts thus cling to the knowledge test for responsibility, after it has been shown, time and again, to be erroneous, by the advances of psychological medicines. This test has been variously modified according to the views of the different judges rendering decisions on the question, since the '*wild*

beast' test of Mr. Justice Tracy, in 1723, while still holding to the cast-iron rule of knowledge as the criterion of responsibility. It was affirmed in 1843 by the English judges, in answer to questions by the House of Lords, in these words: "* * * That before a plea of insanity should be allowed, undoubted evidence ought to be adduced that the accused was of *diseased mind*, and that at the time he committed the act he was not conscious of right or wrong." In 1868 Judge Brewster held that the true test was in the word power; had the accused the power of distinguishing between right and wrong, and the power to adhere to the right and avoid the wrong? Lord Brougham says if he knew what he was doing was contrary to law, that should be the test of his sanity, and Lord Lyndhurst uses these words: "The question was, did he know it was an offence against God and nature?" Chief Justice Tracy restricted the test to the particular act in question, and Parke modified it by the knowledge and character of the deed, and knowledge of doing wrong in so acting, and the whole position is condemned by Justice Ladd.

A short extract from Justice Doe's opinion in the case of State vs. Pike, already quoted from, is applicable here: "It is common practice for experts, under the oath of a witness, to inform the jury, in substance, that knoweldge is not the test, and for the judge, not under the oath of a witness, that knowledge is the test. And the situation is still more impressive when the judge is forced, by an impulse of humanity, as he often is, to substantially advise the jury to acquit the accused on the testimony of the experts, in violation of the test asserted by himself. * * * If tests of insanity are matters of fact, the judge should no longer testify without being sworn as a witness and showing himself qualified as an expert."

The jurist is disposed to look at this subject in a stern, matter of fact way, hard in all its bearings, regardless of human infirmities and frailties, while the physician is lenient, recognizing "the ills that flesh is heir to," and merciful to an unfortunate fellow-creature. It is charged against him that it is this feeling of tenderness and forbearance that prompts him to expose the cause of this class before the courts, but the loyal physician, ever faithful to the trust imposed upon him, will always follow the way of truth and justice, and it is justice for the insane, when scientific knowledge or inves-

tigations show him the truth of the insanity, that leads him to advocate his cause. The jurist is confessedly out of his domain in treating of the subject. He may be well suited to cope with the callous, hardened criminal, but what can he be expected to know of the delicate mechanism of the human brain or the influence of disease upon its physiological action? As physicians, we are willing to grant him all the authority or power desired in his own profession, but it is time to resent his interference in matters belonging exclusively to the medical profession. Time was, when the insane was considered as being possessed with a devil, that there was perhaps an excuse for bringing the acute faculties of his mind to bear on a question confessedly difficult to solve, but in the enlightenment of the nineteenth century, when insanity is universally recognized as a *disease*, there is no excuse for his interference, unless he will consent to keep pace with the anvances in psychology in his decisions. Another quotation from Judge Doe shows that the fact is recognized by the judges, too: "The legal profession, in profound ignorance of mental disease, has assailed the superintendents of insane asylums, who knew all that was known on the subject, and to whom the world owes an incalculable debt, as visionary theorists and sentimental philosophers, attempting to overturn settled principles of law, when, as in fact, the legal profession was invading the province of medicine and attempting to instill old, exploded theories in the place of facts established in the progress of scientific knowledge. The invading party will escape from a false position, when it withdraws into its own territory, and the administration of justice will avoid discredit when the controversy is thus brought to an end."

This state of affairs is somewhat condoned in one Supreme Court decision in this State, where the judge uses the following language in rendering his decision: "This test (the knowledge of right and wrong) has long been resorted to as a general criterion for deciding upon legal accountability, and, with a restricted application to the act then about to be committed, is approved by the highest authorities. But we do not attempt to lay down any rule of universal application. It seems chimerical to attempt to do so, from the very nature of things, for insanity is a disease, and, as is the case with all other diseases, the fact of its existence is not established by a single symptom, but by a body of symptoms, no particular one of which is present in every case.

Imperfect as the rule may be, it covers a great variety of cases, and may aid the tribunals of the country in judging of this most difficult subject."

Dr. Charles E. Johnson, in writing of this test, asks: "Who is to be the judge of what is right and what is wrong?" All men's judgments are not the same on this or any other question. What the judge, with his learning, would denounce as an iniquity, the jury, perhaps less informed, might view very leniently as a mere peccadillo, and the prisoner in the box, with none of the advantages of education, usages of polite society or Christian influences, would look upon as no wrong at all.

Physicians who have given any consideration to the matter, know that this test is impracticable; that the symptoms by which insanity is recognized are as variable almost as the number of cases. To claim that because a man has a knowledge of right and wrong he is sane in all cases, is erroneous, or even that because he has the power to resist the wrong and keep to the right, he is sane, is not true. It is within the province of the law to say that this shall be a test of responsibility, *perhaps*, but when the question of insanity arises, the jurist, knowing nothing of the disease, should leave it to the physician to diagnose. If insanity is to be the test of responsibility, then the knowledge of right and wrong as a criterion is an error bequeathed to us as another instance of "that jealous affection and filial reverence, which have converted our (legal) code into a species of museum of antiquities and legal curiosities," along with the right of trial by evager of law or by ordeal. Dr. C. H. Hughes, in an editorial ("The Judicial Psychology of the Guiteau Trial"), writes thus of the subject: "And even when the learned judiciary, whose province it is to *interpret* rather than *make* pathological laws, as it is likewise his province to determine what municipal laws *are*, and not to *make* them, forms a judicial psychololgy not sustained in the laws of morbid mental movement, sound psychiatry may be thereby set back a quarter of a century or so before courts; but the truths of psychiatry remain the same as though no judicial fiat had sought to make them what they are not, and they will ultimately appear uppermost, despite judicial decision that they are what they are not.

"To ignore motives and resistless impulses of mind deranged, does not, and will not, obliterate them as facts from the phenomena of mental disease."

I cannot better close this special feature of the question than by quoting from one of the legal profession, who, in speaking of the medical and legal professions, says this of the jurist: "He contributes little or nothing to the stock of human knowledge. He has given himself to the study and application of a science—if indeed it be a science—which as often deals with artificial principles and dogmas as with great abiding truths. In grasping at the philosophy of jurisprudence he is fettered, even in this day and generation, by precedents of scholastic absurdity, which date back before the Wars of the Roses, and by statutes, the very records of which were lost before the Reformation. The scientific aim and effort of his professional life is to show that 'thus it is written.' The legacy which he is able to leave behind him to society is therefore rarely better, in its best estate, than a tradition of high faculties fearlessly and honestly dedicated to justice and duty."

This decision, or rather test, of accountability in alleged insanity before the courts, is probably founded on the belief that the will of man is preëminent, controls all mental faculties, and acts independently of them. Volition is not an abstract quality of the mind, with a definite nervous centre, but is dependent for its action on many contingencies in connection with the other functions of the brain. Volition can be exercised only after deliberation, which we generally call reason or the reasoning powers of the individual; this is but the recognition of certain ideas or experiences of a painful or pleasant character consciously recalled by an act of memory. Thus to produce the best results as to man's power of exercising his will there must be complete harmony of action with all the brain functions, and he who best harmonizes these functions by judicious exercise, will approach the nearest to perfect power over those ganglionic cells which are the *associated* centers of ideas which control that faculty called volition."

Should there be such a state as to impair the utility of these cells in the brain there will be a want of harmony in the performance of function, the connecting links will be severed, and the action resulting will not be the same as in a healthy organism. Indeed, we see daily the effects of such action in that we have better control of our feelings, desires, etc., at one time than another. How often do we find our whole mental faculties given over to the consideration of some subject most probably faithful, in spite of any will

power we may exert, keeping us awake through the long hours of the night, and forcing itself into our dreams should we doze. And yet the man whose brain is diseased, whose thoughts are consequently morbid, in whom this healthy power of the will is lost by reason of inharmonious action, this man, who has lost all control of himself by reason of disease, is expected by the stern edict of the jurist to exert more will power, and put away an unpleasant thought or refrain from an action, than the man in full possession of his powers of mind.

Every alienist can recall numbers of cases where the insanity was beyond doubt, still having a knowledge of right and wrong, but where irresponsibility was evident. No cast-iron rule to fit all cases can be made, nor can any single test be applied that will be just and equitable. The question in cases of alleged insanity should be, Was the action the result of a brain diseased in such a manner as to interfere with function? Or, as it has been stated, How has *disease* distorted the normal relationship of the man to the crime and surroundings"?

Time and again has this question been discussed in all its bearings, from both legal and medical points of view, with always a like result—each claiming the victory in the contest, and each pursuing the same course as before: the jurist still clinging to his cast-iron rule, and the physician holding to the faith he has in scientific studies and psychological medicine.

Another principle in the execution of our laws in relation to insanity to which I would take exception, is found in the Supreme Court decision requiring that "Hereditary insanity can only be shown where it is of the same kind as the prisoner's."

Chief Justice Pearson, in rendering this decision, speaks thus of hereditary insanity: "It is a lamentable fact, admitted by everyone, that such maladies are hereditary; and it would seem that the proof of the fact, that members of the family so related as to have the same blood, are, or have been, afflicted with a like malady, is admissible as a circumstance, when aided by other circumstances, and would go to show the insanity of the prisoner, although, of course, evidence of such hereditary taint in the blood, would only be one link in the chain, and would not *per se* establish the fact; but the question as to the policy or expediency of admitting such evidence in legal investigations, presents many and very great

difficulties ; it is wrong to exclude what may lead to truth, and yet such evidence would in numberless cases lead to falsehood, and screen the guilty in defiance of truth. On the other hand, we find it in some degree an open question in the legal authorities. Thus far the way seems to be clear : in order to render it admissible the species of insanity alleged, and that offered to be proved in respect to members of the family, must be of the same character ; and the instances to be proven must have been notorious, so as to be capable of being established by general reputation, and not left to depend upon particular facts and proofs, but about which witnesses may differ, and the consequence of which would be to run off into numberless and endless collateral issues; so that in trying the question of the insanity of one, the supposed insanity of a half dozen would be drawn in."

If I understand the decision, it means that a case of mania produces mania in the offspring, should the insanity be transmitted. In other words, it does not recognize a transformation of type in the inheritance of this malady.

This decision is, I judge, founded upon the acknowledged difficulties in the way of admitting testimony as to heredity, following, perhaps, the Scotch law partially, which does not admit testimony of this character. That injustice would often be done by following this entirely, a compromise is effected by conforming to Esquirol, one of the first systematic writers on the subject of insanity, who wrote over a half century since. He says : "Hereditary mania manifests itself among the patients and children often at the same period of life. It is provoked by the same causes and assumes the same character." Granting that Esquirol was right, it is by no means proven that this is the rule, for in fact it might be said to be an exception, for alienists of the present day, after longer study and more experience, differ from him on this point.

An inherited tendency to insanity is dependent on so many contingencies for its development, that it is impossible to tell what form it will assume, even if insanity should supervene. By surrounding the person with the necessary safeguards in the way of mental hygiene, avoidance of troubles, excitement, etc., the tendency may not culminate in an outbreak of insanity at all. The character or form of the insanity is influenced, in a large measure, by the exciting cause, whatever, it may be. It may be the death of

a friend, a reverse of fortune, the excitement of politics, religious fervor, or many other occurrences in daily life.

Spitzka alludes to the frequent intensification of the malady in the progeny, and this can be verified in almost any neighborhood, certainly in any county, can be found families degenerating as to the various nervous affections. This degeneration and intensification of the transmitted neurotic diseases is admitted by most of the writers of the present day. But we go even farther than this, and assert the transformation of type in the progeny. Owing to the difficulty in obtaining the history of cases of hereditary insanity, I have not prepared any statistics on the subject. My own observations coincide with the views quoted here.

Stearns says: "It is not the case, however, that definite forms of insanity always repeat themselves, but, on the contrary, change, so that a case of mania may appear in the second generation as a case of melancholia or acute dementia, and *vice versa*, melancholia may appear as dementia. * * * It is not necessary that the tendency towards unstable mental action should be fully developed in the parent, in order that it may so appear in the child. * * * Great singularity of conduct habitually displayed, periods of depression, irritableness and nervousness, when crossed with similar characteristics in the other parent, or other unusual ones, not infrequently develop into actual insanity in succeeding generations."

Hereditary action is held by Maudsley "to be rather of the nature of a complex chemical combination whereby compounds, not resembling in properties their constituents, are oftentimes produced, and not of the nature of a more mechanical copy." Again, he says: "Anyone who will may make the observation that when two persons of narrow and intense temperament, having great self-feeling and distrustful of others, and prone themselves to cunning ways and hypocritical dealings, mean in spirits as in habits, perhaps deceiving themselves all the while by an intense affectation of religious zeal, of evangelical, ritualistic or other extreme type, unite in marriage and have children, they lay the foundations of insanity in offspring more surely often than an actually insane parent does."

Grisenger says on the subject of heredity: "At present we can claim for tuberculosis alone an influence of hereditary circumstances in some degree equal to that exhibited by mental diseases." "Sometimes hereditary mental disorders present essentially the same charac-

ters in parents and children, and occasionally also in a whole line of brothers and sisters, appearing at the same age and terminating in the same manner, as, for example, suicide. Frequently, however, this is not the case; the psychical disorder manifests itself in different ways, partly dependent on external circumstances."

Bucknell and Tuke, in their work on "Psychological Medicine," say: "But while the same form or type of mental disorder may descend from one generation to another, it is also certain that not only may one form be succeeded by one of a very different character, but by other neuroses, as epilepsy or chorea. * * * Gaussail held that nothing is transmitted but the aptitude for some form or other of nervous disorder, and that this is wholly determined by causes subsequent to birth. Lucas shows that, as in an individual any nervous affection may be transformed into another, and thus prove the consanguinity of those disorders, so may the like transformation take place in parents and children."

In writing of heredity as a cause of insanity Dr. Mann says: "Insanity also may appear in the same form in succeeding generations, or it may assume an entirely different form, or even assume another form of nervous disease. Thus, it is common to see cases in which the patient, suffering from mania, the offspring may develop symptoms of epilepsy or chorea."

Chief Justice Gibson, of Pennsylvania, in admitting evidence tending to show hereditary transmission of insanity, reviews the dicta of Chitty and Shelferd as to its being an established rule of law that such evidence shall not be admitted, and says the only case where it was brought up the question was avowedly dodged, and the decision arrived at on another point of law, and says the authority of a question appealed from and left *in dubio* cannot be very great." "What if the point had been ruled by the chancellor and law judges in the House of Lords? Professedly learned in the maxims of the law, they were profoundly ignorant of the lights of physiology; yet free from the presumptuousness of which ignorance is the foster-father, they refused to rush on the decision of a question to which they felt themselves incompetent."

That the question of the admission of testimony bearing on heredity presents many difficulties is evident; it is also evident that in the light of the better knowledge of the present day, and the teachings of psychologists, that the decision now under discussion

should be modified. If testimony as to heredity is to be admitted at all, let it be in accordance with the whole truth, and not by suppressing the part which may be of most use to the prisoner on trial. Many more references as to the transformation of the type, or, as the Supreme Court decision has it, "species or character" of insanity inherited from the parent, might be given, but these are deemed sufficient, especially as we can verify the position taken within our own experiences.

Non-expert testimony is allowed in insanity trials; that is, persons not physicians are allowed to testify, giving an opinion as to the sanity or insanity of the individual, but with this difference: while the expert bases his opinion on the testimony of others, and not necessarily from observation exclusively, the non-expert can give his opinion only upon his personal observation. Judge Gaston, in rendering a decision on this question, uses the following language: "But judgment founded on actual observation of the capacity, disposition, temper, peculiarities of habit, form, features or hand writing of others, is more than mere opinion. It approaches knowledge, and *is knowledge*, so far as the imperfection of human nature will permit knowledge of these things to be acquired, and the result thus acquired should be communicated to the jury, because they have not had the opportunities of personal observation, and because they can in no other way have the observation of others."

I have already discussed the subject of what an expert is, but wish to add a few lines here. In investigations before the courts, many matters other than medical questions, demand testimony of a peculiar character from persons so situated by profession, study or observation, as to be enabled to come nearer the truth than others not enjoying the same advantages. A rickety bridge over a stream on the public road, may be pronounced unsafe by the whole neighborhood, because it has gone so far in its decay as to be evidently so to all. An immense iron structure spanning a river may seem the very embodiment of strength and durability to the general observer, yet pronounced unsafe by the engineer. Because the general observer was competent to judge of the condition of the first bridge, would or should his opinion be taken against the experts in a court of law as touching the second? A severe wound may be recognized as dangerous by any observer, while a stab, with little or no bleeding, may not seem dangerous; whose evidence

is better than the surgeon's on this point? The insanity of the raving maniac is recognized immediately by all with whom he comes in contact, but who is to judge of the phases of insanity where the outward show is slight?

Under a decision already quoted, and I believe under the common law, the question of insanity is a question of fact for the jury. In other words, the jury is to judge of the insanity of the prisoner at the bar from the evidence presented. Even though they may have never seen a case of insanity, have never studied the subject, or even read a line in regard to insanity, it is their duty to pass judgment upon a matter that has taxed the brain and consumed the time of giants in intellect, without arriving at a satisfactory conclusion. For assistance they have as witnesses men on a par with themselves as to real knowledge of the subject—the attorney, who has gained his knowledge of a *medical* question from a *legal* text-book, and the judge, who delivers a charge on what is insanity, with the musty decisions of by-gone days as his guides. Is it any wonder that the insane man is often convicted, or that the culprit often escapes punishment on the plea of insanity under such a state of affairs?

While non-expert testimony is competent and is often used in insanity trials, it is held that the testimony of the physician in regard to the mental state of a person is of more importance than that of a non-professional witness, and the following charge was delivered to the jury: "* * * That it was the business of a physician to understand the disease of the mind as well as of the body, and that his opinion for that reason was entitled to higher consideration than ordinary witnesses." The Supreme Court, in reviewing this charge, uses the following language: "It may be said of the physician that he is, by the nature of his studies and pursuits, particularly skilled in the mental as well as in the physical diseases of men, and with respect to the parties upon whom he is in constant attendance, he must be supposed, as well from his superior knowledge, as from his better opportunities of observation, to be particularly well-informed as to their state of mind. What, therefore, the judge thought proper to say upon the subject of the witnesses mentioned, we do not think liable to any just exceptions."

Did time permit, there are other decisions on matters relating to

insanity that might be profitably reviewed, but as I fear I have trespassed already too long, I will here simply refer to them, and may perhaps enlarge on them in the future. The subjects of moral insanity and moral debasement are treated of in the cases of Mayo vs. Jones, 78 N. C. R., 402, and State vs. Brandon, 8th Jones, 463, neither of which is recognized. A subject of much interest, and one which should be thoroughly studied by the expert on insanity, is what evidence can be introduced as to insanity, or to show insanity. We have Supreme Court decisions on it in the famous Johnson will case, Wood vs. Sawyer, Philips' Reports, 251 ; State vs. Cunningham, 72 N. C. R., 469; Barker vs. Pope, 91, N. C. R., 164

I have tried to show some of the objections to the existing state of facts as regards the law and the doctor, and wish that I might suggest a remedy that would be accepted. Our hands are, in a measure, tied. We can point out these errors, and give our reasons for the necessity of a change, but as the courts have *all* the authority, we can do nothing more than urge the truth and justice of our position. Dr. W. C. McDuffie recognizes this evil in a recent article, and suggests that the decision of the whole matter, so far as the insanity is concerned, should be left to the doctor.

Dr. Buckham, in his little work, urges that the superintendents and first assistant physicians of our asylums of a —— number of years experience should have as part of their official duties the giving of testimony on insanity whenever required by proper authority, and without compensation. He makes several suggestions in the way of safeguards to be thrown around such experts. To have a commission composed of doctors alone, or perhaps doctors and lawyers, to judge of these cases, or to leave it entirely to an expert, *and the court be governed by such decision*, is open to objections, for we are met on the very threshold with a constitutional enactment granting to every citizen that great bulwark of liberty, the right of trial by jury. All reforms, to be permanent, should be gradual, and there is much need of care in dealing with this subject. Let us as physicians go forward fearlessly, honestly and conscientiously doing our whole duty—more we cannot do.

Authorities Quoted in the Foregoing Article.—Journal of American Medical Association, Vol. 4, No. 18, May 2, 1885; Journal of the American Medical Association, Vol. 5, No. 20, Nov. 14, 1885; The Polyclinic (Philadelphia), Vol. 2, No. 7, p. 105; State vs. Dollar, 66 N. C. R., 626; Horton vs.

Green, 64 N. C. R., 64; State vs. Clark, 12 Iredell, N. C. R., 151; State vs. Clark, as above; Flynt vs. Bodenhamer, 80 N. C. R., 205; Barker vs. Pope, 91 N. C. R., 165, and State vs. Bowman, 78 N. C. R., 509; Clairy vs. Clairy, 2 Iredell, N. C. R., 78; State vs. Pike, 49 N. H. R., 399, also American Reports, Vol. 6, p. 533. From Dissenting Opinion of Judge Doe, 579; State vs. Haywood, Philips, 376. ("It is not every kind of frantic humor or something unaccountable in a man's actions that points him out to be such a man as is exempted from punishment; it must be a man that is totally deprived of his understanding and memory, and doth not know what he is doing, no more than an infant, than a brute or wild beast; such a one is never the object of punishment.")—*Maudley's Responsibility, p.* 90. Wharton and Stillee Medical Jurisprudence, Sec. 159; Buckham's Insanity in its Medico-Legal Relations—Appendix, p. 221, where the different opinions of judges are given in groups; American Reports, Vol. 6, 584; American Reports, Vol. 6, 581; State vs. Brandon, 8th Jones, N. C. R., 468; Insanity in its Medico-Legal Relations, 133; Insanity in its Medico-Legal Relations, 181; Alienist and Neurologist, Vol. 4, No. 1 (Jan., 1883), 141; Insanity in its Medico-Legal Relations, 242; Maudsley's Physiology of Mind, Chap. on Volition; Alienist and Neurologist, Vol. 4, No. 1 (Jan., 1883), 143; State vs. Christmas, 6 Jones, N. C. R., 471; Esquirol's Treatise on Insanity (1845), 49; Insanity. Its Classification, Diagnosis and Treatment, by E. C. Spitzka, 86 (edition of 1883); Insanity: Its Cause and Prevention, by Henry Putnam Stearns, 129; Maudsley's Pathology of Mind, 92; Maudsley's Pathology of Mind, 95; Mental Pathology and Therapeutics, by Grissenger (Wm. Wood & Co's edition, 1882), 106–109; Psychological Medicine, by Bucknell and Tuke, 63–64; Psychological Medicine and Allied Nervous Disorders, by E. C. Mann, 55; Clary vs. Clary, 2 Iredell, N. C. R., 78–83; Cornelius vs. Cornelius, 7 Jones, 593; North Carolina Medical Journal, October, 1885; Insanity in its Medico-Legal Relations, by T. R. Buckham, 172.

NOTE.—I wish to acknowledge my indebtedness to Hon. Walter Clark, Judge Fourth District, for valuable aid rendered in the preparation of this paper, and to the members of the Goldsborough bar for the use of books from their libraries, and for other favors shown. J. D. ROBERTS.

CLINICAL REPORT—PROBABLE WANT OF CONNECTION BETWEEN MENSTRUATION AND OVULATION.

By R. L. PAYNE, Jr., M.D., Lexington, N. C.

(Read before the North Carolina Medical Society, at New Bern, May 21, 1886.)

Gentlemen:—That menstruation and ovulation are coincident, is a fact which has been well-established by physiologists, but that the forces which bring about the one do not necessarily cause the other, is also so well-established that I am sometimes tempted to believe that while we must regard these processes as coincident, we are in no position to claim that they are necessarily interdependent.

There are numerous cases on record in which pregnancy, which necessarily implies ovulation, has occurred in virgins without any previous menstruation, and it is by no means rare to meet with women who, nursing one infant, become pregnant with another without over having seen any sign of the menstrual flow.

Again, cases occur in which all during pregnancy the menstrual flow recurs regularly, and yet we feel certain, from the progress of development and decline of the corpus luteum of menstruation and the corpus luteum of pregnancy, that during pregnancy the process of ovulation is in abeyance. Two cases illustrating the probable want of connection between menstruation and ovulation have lately come under our care, and may not prove uninteresting.

Case 1.—Mrs. L., married six weeks, came to me to learn why her menses did not occur. She had pain in her breasts, some morning sickness, morbid appetite, etc. I, without thinking any possible exception could be taken, suggested the idea of pregnancy, when the patient and mother, who accompanied her, became very indignant, and declared such could not be the case, because the girl, who had previously been perfectly regular, had missed her period a month prior to marriage. No vaginal examination was allowed, and so—though in my own mind I was not satisfied that pregnancy did not exist simply because the period failed to recur one month prior to marriage, and knowing full well that such accidents add materially to the number of seven- and eight-month babies born in early wedlock, I modified, as best I could, the offended parent, and prescribed a simple tonic. Two weeks later the menses appeared, and the young madam told me very triumphantly of my mistake, but her breasts were already showing the changes marking the advance of pregnancy, and six weeks later, exactly four and a half months from the time of the first disappearance prior to marriage of the menstrual flow, quickening occurred. The menses recurred regularly from the time of the reappearance until the eighth month of the pregnancy, when she again missed her period, and exactly at the end of nine months, counting from the date of the first disappearance of the menstrual flow, she was delivered of a fully developed baby. Incidentally I may remark that at the time of labor several convulsions occured, and for three or four days thereafter the patient lay with widely dilated pupils, perfectly conscious, but perfectly blind.

Case 2.—In the second case, which has now been under observation about four years, the history is briefly this:

Mrs. B., multiparæ, has had five pregnancies, the last of which occurred five years prior to the time of her first coming under our care. At this confinement she says she had a very hard time, and the placenta which was adherent was not removed till the end of twenty-four hours.

Since the beginning of this pregnancy, now five years ago, she has had no appearance of the menses. She is now suffering (at the time of coming under my care) with cervical endometritis, and is quite anæmic. She was given local and general tonic treatment. The cervical catarrh readily yielded to treatment, and the general health was very much improved, but the menses did not appear. The tonic treatment was continued, and every remedy supposed to be of use in the treatment of amenorrhœa was faithfully tried, even the much vaunted permanganate of potash, but without avail. Electricity was not used, because, for many reasons, it was impracticable. At length all efforts to re-establish menstruation were abandoned, and the case regarded as one of early established menopause. Drs. Boismont, Guy, Tilt and others have observed cases in which the menopause was established at ages varying from twenty-one to sixty-one years, and placing my patient in this category, I considered that, at the early age of twenty-seven years, the date of her last menstruation, she had attained the climacteric. She had no further treatment for the amenorrhœa, and I saw nothing more of the patient till sometime during the fall of 1885 she called at my office complaining of debility. After careful examination, I could detect nothing apart from general debility, and so I prescribed a simple tonic, and again the case passed from under my care. Up to this time there had been no show of the menses, and I further add that during the whole progress of the case there has been no evidence of periodical congestion of the pelvic organs, as witnessed by pain in the back and limbs, a sense of fulness in the pelvis, and such other symptoms as are usually present when abortive efforts to menstruate occur. I saw nothing further of the case till about two months ago, when she came to my office to ascertain the cause of the enlargement of her abdomen, which was gradually growing in size. Her general health seemed good, and my father, who examined her, did not hesitate to diagnose a pregnancy. A few weeks subsequent to this visit she fell into premature labor, and I

delivered her of a very feeble babe of perhaps six or seven months development, which only lived a few hours. Again, I found the placenta adherent, more perfectly so than in any case I have ever before seen, and it was with the greatest difficulty, and after the most prolonged effort, that I succeeded in tearing, and scraping with my finger nails, curette fashion, the placental tissues from the fundus of the womb. Even now I do not feel sure that all was removed, and a sharp attack of metritis, complicated with septicæmia, followed, which well-nigh cost the life of the patient. It must be rare that pregnancy will occur nine years after the menstrual flow ceases, and hence I have thought the case of sufficient interest to report to this Society. Again, as before remarked, nothing could better illustrate the fact that menstruation is not one of the necessary concomitants of ovulation, and *vice versa.*

TRUE AIM AND SCOPE OF THE MEDICAL PROFESSION.

By Geo. W. Long, M.D., of Graham, N. C.

(Annual Oration, read before the North Carolina Medical Society, at New Bern, May 21, 1886.)

Mr. President, Fellows and Friends:

It is by the appointment of our Society that I now have the honor of addressing you. I should be proud on any occasion of acting as its representative. In casting about for a subject, I find the field very much narrowed down by addresses on previous occasions, and am almost at a loss to know what to talk to you about. I believe it was Talleyrand, or some other philosopher, who said that "the world did not need so much informing as it did reminding." Taking this proposition as correct, and considering the large number of young men who have recently joined our Society, I have concluded to address my remarks, for a few moments, more especially to them by way of reminding them of the

TRUE AIM AND SCOPE OF THE MEDICAL PROFESSION.

One of the most prominent points in our consideration of the character of the medical profession is that it is not a business for making a fortune, or an instrument for the attainment of anything of a purely selfish character. Think for a moment on the great ends which it proposes—the alleviation of suffering man and the preservation of his life. To exist and to be free from physical pain are, doubtless, the two

greatest earthly blessings of man. In the pursuit of other objects they are often exposed to great risk. Like the gambler, we heedlessly stake them in the great games of the passions; like him who suffers death for the truth, we sometimes offer them up at the shrine of duty; but in the first case the loss of the game brings despondency; in the other there is an exchange of temporary blessings and comforts here, for eternal happiness hereafter. What are all the good things of this world without health to enjoy them? And what boots it if we gain wealth and power, and at the same time lose our own lives, upon the continuance of which hangs all the pleasures of success? If, then, physical indisposition and death are the greatest of worldly evils, how grand must be the profession whose purpose is to obviate them! Those who undertake its duties assume a great responsibility to devote themselves to its high functions. It would be well were this the prominent feeling of all our doctors. It is not a question with the student of medicine, as with the worldly neophyte, whether he shall gain or lose in proportion to his industry or negligence. If this were the only consideration, he most probably would, under strong temptation, become reconciled to inattention and idleness, on the score that his conduct is purely a matter of expediency; that, if he saw proper, for present gratification, to sacrifice a portion of future good, nobody has a right to complain, as no one but himself can be affected. In reference to sordid interests alone, it is true, this reasoning would be unsound. In the higher view of the scope of the profession, which, without doubt, is the just one, such an excuse could not be offered to the most obtuse conscience. The medical practitioner, constantly keeping it before his eyes, could never give way to the temptation of idleness without a consciousness of duty neglected. This high conception of our office should not only be indelibly fixed in our minds, but should pervade all our professional thoughts. Habitually cherishing such sentiments not only encourages diligence in the pursuit of professional knowledge, but ennobles and elevates our characters. One lofty sentiment, carefully entertained, acts like a ferment, leavening, in a greater or less degree, the whole soul into its own nature. There is a contagion of good as well as of evil. Those who have entered the profession should realize the fact that they have bound themselves to devote their best energies to the good of their fellowman, so far as life and health are concerned; and this consciousness will raise them above all that is selfish. Think for a moment of a man who becomes a physician from a purely selfish motive. In the

first place, he probably starts without sufficient preparation, because he has been without sufficient inducement to the requisite exertion. In the second place, as he is not so desirous to cure disease as to make money, the former will yield to the latter, when the two are incompatible. He will most likely be an unskilful practitioner, and not employ to the best advantage the knowledge he may possess. His unfortunate patient is looked upon simply as a customer. Allow him to be so far honest as to sell the best he may have at a fair price. This disposition cannot long continue. The tendencies of his mercantile position will always be to make as much money with as little expenditure of time and trouble as possible. To successfully resist evil one must have the strong support of principle, with the most careful avoidance of all seductive influences. Among the petitions that we are directed to offer to our Father who is in Heaven is that we may not be led into temptation. A doctor with no other than selfish motives is voluntarily and unceasingly exposing himself to influences which he is thus taught to shun. His prayer against temptation can be of no possible avail. Let us examine the probable course of the trafficking doctor. Of course it differs somewhat under different circumstances; but on the whole is inevitably downward. Suppose he has a good start in an unoccupied field, and without competition. If he is not already corrupt, he may aim to practice fairly, giving to each case its due amount of attention, and demanding a just remuneration. But he soon begins to imagine that he is not making the most of his opportunities. He finds out that he can make more with less cost of time and labor. His visits to those patients who can pay but little gradually become fewer; to those who can pay well gradually more frequent; for he is paid by the visit; and he now thinks that no one is entitled to attention he cannot pay for, a whit better than to a pair of shoes below cost. This is lucky for a poor man afflicted with a spontaneously curable or easily treated disease, for he gets well with very little medicine and at small expense. But woe to the man that is seriously ill and in need of regular and careful attention. Woe, too, to the rich man in pocket and in health. His case is to be cherished. He receives visits in abundance and doses without number; but there is no corresponding amendment. He may finally get well, for nature will sometimes cure in spite of the doctor; and besides, the conscience is not yet hardened to murder;

and interest, even, requires that the sheep already fleeced should be kept for another shearing. Some attention must be paid to reputation; and the patient and his friends must not be scared off by suspicions, either of deficient skill or foul play. So far as the doctor is concerned, the duration of the case is a matter of complex calculation. On one side are the dollars, on the other some remains of conscience, a little regard for future opportunities, and, perhaps, a sickly season. The welfare of the patient and professional duty are not taken into account. Suppose that competition has now sprung up, or has existed from the first. A double game must be played. The rival must be undermined and gold must be won at the same time. Under these circumstances there may be more caution in practising tricks of trade, for a knowing and watchful eye is upon his movements, and a fair seeming is essential to success. Here the selfish spirit shows itself in endeavors to try to depreciate the rival by disadvantageous comparisons, false insinuations, or even direct falsehood. The medical brother is offended, however correct and high-minded he may be, and unseemly disputes, which disgrace the individuals concerned, one or both, and injure generally the profession in public esteem. It may be that, instead of regular competition, some variety of quackery comes upon the stage, and the public mind is thrown into excitement by the novelty or the flaring pretensions of the new practice or doctrine. Our doctor, if quite lost to all principle and self-respect, and surrendered, body and soul, to mammon, is now apt to set his sail to the popular breeze, and to meet the new rival with his own weapons. Perhaps he proclaims himself a convert, and professes to practice on the novel plan. Perhaps he goes only half way, and, medical demagogue as he is, declares his submission to the will of the people, and agrees to cure them in whatever way they may deem best, whether by homeopathic globules, by sweating and red pepper, by cold water, or in the old way. There is but one more step in this ignoble descent. His cupidity is excited by the reported success of some renowned advertising doctor. He hears of this or that pill-vender or nostrum-monger, as having accumulated great wealth, and living in corresponding magnificence. Visions of similar prosperity present themselves to his inflamed imagination. He knows that a gulf of infamy lies between him and the realization of the splendid picture. Nevertheless he takes the last desperate leap into

the slough before him, and either sinks dishonored or rises up clutching the coveted prize, but covered all over with the filth of degradation, which, though he may endeavor to conceal it with the splendor of his fortunes, no subsequent cleansings can remove, save only the washings of regeneration. The number of our regularly educated physicians who sink to this depth of depravity is happily very small. Even those who may succeed to their heart's content in attaining practice and making money, find that, after all, this is poor compensation for their toils and privations. Exhausted by severe labors and loss of sleep; disturbed at meals or in the rare enjoyment of social pleasures; breasting the storms of winter or sweltering in the summer sun, fretted by jarring professional views, adverse interests, the reproaches of discontent or disappointment, the misrepresentations of malice or envy, can the practitioner, thus suffering from mental or bodily discomforts, find satisfactory compensation in the mere swelling of his hoard of dollars? If this were his only source of comfort, he would be wretched in the midst of accumulation. There is something else necessary, and this can only be found in the consciousness that he is discharging a high duty, and is thus laying up treasures where neither moth nor rust doth corrupt.

While I have endeavored to point out some of the evils of a purely mercenary spirit in the practice of medicine, it is not my intention to lead any one to undervalue the claims of the doctor to a just remuneration. The practitioner of medicine, as all other professional men, must live by his labor. He must earn from his profession the means of supporting a comfortable style of living, from the fact that he is necessarily the associate of men in the very highest walks of life. Some of the capital expended in qualifying himself must be repaid. Moreover, he is justly entitled to such an income as will enable him, after a successful career, when his health begins to fail, to withdraw from active duty with suitable provision for his family. Of course his compensation, then, must be on a liberal scale. In all communities prices arrange themselves as a necessary result of existing circumstances. There are two evils necessary to be avoided, flowing from a selfish spirit, which have a bad influence on the profession. Under-charging is one, by which a mercenary doctor expects to build up a practice at the expense of his professional neighbors. This is justly considered by the majority of

the profession as mean and discreditable, and those who notoriously practice on this principle lose more in the good opinion of their fellows and of intelligent men generally than they gain in a pecuniary point of view. The other evil is that of excessive charging, by which the physician not only brings discredit on himself, but the profession, and, in fact, though he may gain for awhile, is apt to lose in the end. In order to avoid these evils, physicians have endeavored to determine the correct charges for services in their several neighborhoods, any material departure from which would be regarded as not very creditable. We have somewhat considered the profession in relation to its ends, but there are other points of view in which it must be looked at by those who desire to fulfill its requirements and harmonize with its true character. As you know, it is universally ranked among the learned professions. More than a simple acquaintance with natural and physical science is necessary for the physician. He is expected, like other gentlemen of liberal education, to know something of history, to be conversant with great deeds and characters, with those things which have influenced the course of events, with the great productions of genius in philosophy, literature and the arts. He is expected to manifest an acquaintance with the existing condition of the world, of men and their distribution, the earth's divisions and its products, international relations, the science of government, the condition of science and learning, the great industries of manufactures, agriculture and commerce. Every gentleman claiming education is presumed to have paid more or less attention to these subjects, and gross ignorance of them would, as a rule, be considered as evidence of neglected culture and consequent incapacity for duties which, like those of medicine, especially call for the exercise of intellect. We must admit, however, that a doctor's professional abilities are often estimated by the vulgar by quite a different standard. They generally consider medical qualifications as a gift. They seem to have an idea that they come by nature, like supernumerary fingers and toes. A natural bonesetter takes precedence, in their estimation, of a Hamilton, Gross or an Agnew. A seventh son is a born doctor, and the seventh son of a seventh son is a perfect miracle in the art of healing. The vulgar may be found among the rich as well as the poor, and a doctor who can inspire such a belief of his wonderful gifts may attain a lucrative practice, especially if he has the talent of a successful swindler, namely, the talent of humbug. But he would make a very unfavorable impression upon the thinking portion of the community. These, being ignorant of medicine, judge him by the attainments he may possess in common with themselves. If they find out that he is well-informed and has good judgment on subjects which they understand, and have reason to believe that he has been industrious as a professional student, they will generally be disposed to give him credit for equal proficiency in medical skill, and try to seek his aid when opportunity offers. Any doctor possessing general information stands a better chance of professional success than the mere pretender, and even if he should fail to gain a greater amount of practice, he cer-

tainly takes a higher position in the esteem of the community. Independently of his own satisfaction and self-respect, the possession of knowledge upon subjects connected with his professional pursuits, will have a special bearing on the opinion formed of him by others. Thus he is expected to know the progress of medicine, the source of drugs and the origin and spread of disease. There are a great many people, quite ignorant of medicine professionally, who have considerable information on such subjects, and are very capable of detecting a want of it in the doctor. Suppose, for instance, that some one of our young doctors should inform his hearers, in his rounds to his patients, or even tell our medical examiners, in answer to testing questions, that Galen discovered the antivariolous influence of vaccination; that Peruvian bark is produced in Labrador, and that Hippocrates was highly skilled in auscultation and percussion, what do you suppose would be the opinion formed of his real professional attainments? And yet, I doubt not, answers equally as absurd have been given by candidates for medical honors.

As yet I have only spoken of some of the humbler motives for the cultivation of general knowledge in connection with the professional. There are inducements of a still higher nature. Greater development is given to our intellectual powers; a wider field for the exercise of thought and expansion of all our better feelings, and, as a result of all these advantages, a more decided influence over ourselves, and of course a more powerful influence over the convictions, thoughts and characters of others. But, while speaking of general mental culture, I would like to caution you against a course dangerous to your best hopes; I refer to an exclusive or any obvious devotion to any branch of science or literature which may absorb your time and faculties, and withdraw, or seem to withdraw, them from your proper professional pursuit. Medicine will bear no rival in our affections or attentions. She is a jealous mistress and tolerates and even demands such accomplishments as will render her votaries more efficient in her service and reflect additional splendor upon herself. Her deepest frowns await those who acknowledge a divided fealty, or addict themselves preferably to another mistress. Even coquetry often draws down upon her professed votary a most withering indignation. There are few greater impediments to success in the practice of medicine than a real or seeming preferable addiction to some other branch of knowledge, even though it may seem collateral with medicine itself. Whether justly or not, the world will generally believe that labor and time must have been unduly abstracted from professional devotion, and will, as a rule, seek the aid of physicians who, though generally accomplished, have not allowed any other attachment to encroach upon their legitimate one. So, if we propose, as our great object in life, a wide field of professional duty, we must let it be clearly seen that such is our aim, and that whatever else we may have gained through opportunity or dilligence, is to be made subservient to this end.

THE MALARIAL DISEASES OF EASTERN NORTH CAROLINA--STUDIED WITH REFERENCE TO THE GERM THEORY.

By S. S. Satchwell, M.D.

(Read before the North Carolina Medical Society, at New Bern, May 21, 1886.)

Mr. President and Gentlemen of the North Carolina State Medical Society:

At an annual meeting at Raleigh, in May, 1884, I was appointed to report, at the succeeding meeting at Durham, upon "Advancement in the Science and Practice of Medicine." Prevented by unavoidable engagements from so doing, I now beg leave, respectfully, to submit this paper as a substitute, duly appreciating the compliment of said appointment. It contains some reflections upon the germ theory and malaria, together with a notice of some of the prevailing inflammations and fevers of our eastern counties. As a laborious country practitioner in Eastern North Carolina for the last thirty years, I trust this record of a portion of my observation and experience will not be wholly devoid of interest. We all know something of the necessity imposed upon the country practitioner of thinking for himself and of cultivating habits of self-reliance. This very necessity trains him to observe and investigate for himself, and to be careful and discriminating in accepting views, conclusions or dogmas of others without subjecting them to the test of rigid examination, sound medical reasoning and ample experience. So wonderful is the onward march of medical progress, as relating to the etiology, nature, pathology and therapeutics of disease, that, unless we are acquainted with sifted facts and actual knowledge that underlie established principles of our art and science, we are apt to become mere routinists, disqualified for deciding upon new theories and remedies as they continually come forward, and are easily made victims of those medical errors and delusions that are ever assailing the bulwarks of the profession. So great are the demands upon us all in these fundamental relations that scarcely any publication or treatise on a medical subject is now regarded as entitled to consideration unless it embraces the cause and nature of disease, as well as the means of its prevention, removal and

cure. Especially is this true as bearing upon whatever relates to the origin and nature of disease. Laymen, as well as scientists and busy practitioners, are now interested as never before by new enquiries and developments upon this subject that have come to the surface in connection with the germ theory of disease. During the last ten or fifteen years no question in medicine has been so much agitated or occupied so much thought in our profession as this fascinating subject known as the germ theory. So that it would be unpardonable in me, in discussing some of the prevailing fevers and inflammatory diseases of the middle and eastern counties, to omit a reference to the family of micro-organisms, as well as to malaria, as factors of disease. It is encouraging that advances in the last few years in the literature of micro-organisms and bacterial pathology have not only shown, as were previously unknown, and even unsuspected, that these bodies are infinitely small in size, but that they bear important relations to our own organisms and to the lower animals in health and disease. It is not surprising, therefore, that the subject presses upon medical attention to an absorbing degree. Our last "Transactions" contain a well-prepared review of the relations of micro-organisms to disease, from the pen of our talented young member, Hubert Haywood, M D., of Raleigh. In common with all who listened to its reading, I heard him with much interest. Like so many others, who have seized with avidity upon the disclosures of the microscope in these assumed relations of micro-organisms, the doctor holds that the human organism is invaded by microscopic organisms or germs, and that disease is a struggle between the organism and the parasites invading it. This idea (using his own language) "discards the old idea of impurities of the blood, chemical dyscrasia, a genius epidemicus, and the omnipotent bugbear cold." Dr. Haywood argues most ingeniously, as do others, in contending that the germ theory rests upon a solid foundation. He offers as evidence that "measures and remedies that have the most beneficial effects in the prevention, treatment and cure of the different infectious diseases have been proven to be antiseptic and germicidal in their properties." He says "there is the direct proof of the certainty of the germ theory in the artificial cultivation of micro-organisms associated with certain diseases and obtained from the subjects of such diseases, in sterilized, nutrient fluids, and inoculations with these pure cultures, several generations from the original source, thus reproducing the original disease, with all of its characteristic

features." Distinguished authors say: "These parasitic forms of life are of two, or, as some would opine, of three kinds. Certain of them are of a distinct animal character, others are distinctly vegetable, while others, it is assumed, lie between the vegetable and animal kingdoms." It is claimed for human parasites that they are of three classes: 1st. Entozoa. 2d. Ectozoa. 3d. Entophyta and Epiphyta. The first two classes are said to be animal in character, embracing a large number of parasites, known and recognized. The last are regarded as vegetable, the nature of which are of more recent investigation and discovery, and are now claimed as the cause of the most formidable diseases that scourge mankind. They are said to be of the nature of fungi, one of the very simplest forms of life, and found in the blood, secretions and tissues of the human system in many diseases. As we all know, bacteria are organisms, or parasites, to which are attached primary meaning and great importance by those who claim them as causes of disease. Bacilli, as is well-known, are rod-like bacteria and multiply by fission as well as by spores. It seems that prolonged boiling does not lessen their activity, neither does immersion in alcohol for months, and time seems powerless to weaken them. They are capable of growth and reproduction. They are regarded as the lowest form of bioplasm in nature, and, according to Koch, they do not originate in healthy animal tissue. They exist upon the skin and surface of mucous membranes, in the mouth and in the follicles of glands. Morbid alterations in digestions are claimed to be followed by the multiplication of bacteria in all parts of the alimentary canal. The germs are claimed to be found in healthy blood, but remain dormant until some change adverse to healthy action takes place, when they grow and multiply with much rapidity. It is difficult to find a spot destitute of bacteria germs. They exist in the air we breathe, in the water we drink, upon the soil, on high mountains and in plains and valleys, riding on trees, dust, insects and upon the rays of the sun. It is for morbid structures they have the greatest appetite. They prey with great avidity upon dead animal tissues—are found in the secretions of cholera and fever patients during life, and people the body in numberless swarms a few hours after death. But Koch, Pasteur and others affirm that they have not detected bacteria in healthy animal tissue. In health we may breathe, eat and drink bacteria with impunity, but as soon as disease sets in the diseased tissue or organ swarms with them. It is

held that putrefaction is dependent upon the presence of bacteria and that sepsis is due to their action. Therefore septic infection from a wound means the absorption of bacteria. It is contended that, while septic infection is only another name for the presence of bacteria, and, while the presence of bacteria in the wound is unnecessary, yet that these liquids are putrid because they embrace the products of bacterial life. Amid the admitted doubt and speculation hitherto attendant, to no little extent, upon the etiology of disease, conjoined with the seductive attractions of the germ theory, and the glittering costume in which novelty is generally robed, a great bacterial wave has been sweeping over the medical world for a number of years.

The enthusiasm exhibited by the brilliant workers in the untiring field of germs, micro-organisms and the entire family of microbes is calculated to convey the impression that the subject is a new one, confined to the last ten or fifteen years. Not so, however. As early as the middle of the last century it occupied the attention of the profession. Then it was that authors pointed to "animalcules" as the cause of contagion. Thus early did medical men hold that an extensive list of diseases were owing to the effects of parasitic organisms. Itch, dysentery, measles, syphilis, leprosy, small-pox and other diseases were claimed to be due to this cause. Tubercles were held to be owing to acare in the lungs. Cholera was thought to be caused by matters originating from lower organisms. These early germ theories were abundant because of the want of relationship between the cause and effect. *Their* methods withheld the action of the cause. *Ours* consists in applying it to lower animals by inoculation. It seems that micro-organisms, called *infusoria* in earlier times, were first perceived by Leuenwenhoek (1675). Dr. William Budd, of Bristol, England, was about the first man of recent times who claimed, in 1849, that low organisms invaded the body and caused infectious diseases. Since then, as we all know, Koch, Klein, Pasteur and others have made extensive researches in the line of micro-organisms; Pasteur in chicken-cholera, hydrophobia, etc.; Koch in septicæmia, tuberculosis, etc., and Klein, Koch and others in the minobes of cholera. Kindred researches are now going on with great industry in respect to malarial and typhoid fevers, pneumonia, yellow fever and other diseases.

It is claimed, with plausibility and persistent tenacity, that micro-organisms constitute efficient cause of disease for the following reasons among others:

1st. That there are constantly the same bacteria in the tissues or discharges, and in numbers sufficient to cause the symptoms.

2d. That the organisms, as likewise morbid matter taken from diseased animals, produce the same disease in other animals.

3d. That pure cultures, distinct from other organisms, and free from original morbid matter, and carried through several generations, as called, cause the same disease in other animals.

Now, existing facts and medical reasoning do not clearly establish these propositions. In regard to the first, it is true that germists admit the presence of an organism as evidence of its causative efficacy. But medical reasoning here is at fault because of a failure to draw the necessary distinction between cause and concomitance or coincidence. Who knows whether the organism is a cause, or a concomitant, or a coincident of disease? Besides, different germists, while contending that morbid conditions imply the presence of an organism as cause of disease, do not, in all cases, agree as to the nature and character of the organism. Here we have different causes set up in the same morbid condition and in the same body, as producing the same disease. In nearly every disease claimed to be of parasitic origin more than one organism is claimed by different discoverers to be its cause.

In relation to the second proposition, the method of experiment referred to is not conclusive evidence. It only shows, in all fairness, that disease may be communicated by infection. *But whether the micro-organism itself or diseased tissue is the efficient instrument or agent, is not shown.*

The third proposition, it is respectfully submitted, is also defective in proof. A pure culture means freedom not alone from other organisms, but freedom from morbid matter or condition. It is called pure when only one species of micro-organism is present, and this means that nothing else is present but that organism. For purposes of inoculation the organism and some of the culture medium must be used. Generally the latter is greater in amount than the former. Of course, before using the material all morbid matter must be removed from it. The process or mechanism by which this removal is effected opens, or presents, three different suppositions for its explanation or solution. It must be done by desiccation, or putrefaction, or dilution. If done by desiccation, the process can hardly be regarded as efficient, for the reason that the desiccated morbid material would be likely to absorb moisture from the tissues of the inoculated animal, and thus become

diffused throughout the blood and serum. The process of putrefaction presupposes the presence of putrefactive organisms. True, these organisms do not continue to grow, but their spores, only destroyed by boiling, will adhere and be transferred from culture to culture, and hence remain with the matter used for inoculating purposes. These spores, it is claimed, easily develope in the inoculated animal and confirm the result, as it is contended examples have shown. Those who deny the conclusions of Pasteur and others assert that if the process is by dilution, dissipating the original morbid material, in fluid cultures it becomes enormous. It is argued, they say, by Pasteur, that if a single drop is used to inoculate twelve successive cultures, the dilution of the original drop of blood is the same as if the drop were placed in a bulk of water equivalent to the size of the entire earth. If the impression sought to be made by this statement is well-grounded, this extreme and extraordinary dilution would, as a matter of course, show the absence, practically, of morbid matter. But the assertion is boldly challenged by disbelievers, who contend that if a drop of blood should be placed in such a bulk of water the micro-organism, even, would be lost, as well as the organized elements of the blood. The sophistry of the proposition is seen in the exclusion of the effects which the culture causes. Are we to disregard influences which morbid tissue may exert on the culture medium? This consideration is ignored in the self-sufficiency of the explanation that the material is an infinitesimal portion of a chemical virus. A pure culture is entirely unnecessary under any assumption that morbid matter has no influence in the transmission of disease. It has not yet been shown by experimental investigation what the influence of morbid tissue is or how it operates. Not until it has been proved what the powers of morbid material are, apart from organisms, can it be demonstrated that lower organisms, and lower organisms alone, are the efficient cause of disease.

Hoffman has recently written a work to establish a fact, heretofore denied, that normal human blood contains an abundant quantity of micro-organisms which, under appropriate conditions, may assume pathogenic properties. At a recent meeting of the Paris Academy of Medicine that noted medical gentleman, Professor Le Fort, made a bold and vigorous assault upon the microbe theory. Addressing himself to its special advocates, he said: "By denying the spontaneous germination of microbes *in* the system, you necessitate their existence *outside* of it, and yet you cannot detect one

there. The most virulent epidemic of erysipelas, or gangrene, or hospital fever may rage in a hospital ward, but still human ingenuity is powerless to find in its atmosphere a single morbific germ, if there really existed anything in the *entourage* of the stricken patients—and germs would be there if they *enter from without*—they would necessarily be discoverable. It follows, therefore, that the negative results of the search for them overthrow your system, and leave you without recourse. Upon your own grounds, therefore, the microbe system is false—is but a tissue of contradictions in terms and conclusions, without a single authenticated fact to give it consistency and vitality." Similar diatribes are often pronounced of late by leading members of the Academy against microbes and their champions. The brilliant Professor Peter, of that distinguished body, in his withering denunciations of the microbe theory, holds that disease arises not from germs which *enter* the body, but are developed *in it*. It is the theory of this eminent Frenchman that life entails death, because in the physiological metamorphosis essential to its manifestation, certain bodies are elaborated which induce decay and cause dissolution. In fact, he contends that our systems are but laboratories for the preparation of poisonous compounds, which first contaminate and then destroy them.

Admit, even, that there is some truth in the microbe hypothesis, it is certainly remarkable that no germist or microbist has yet found a germicide. That is what we all want—that is what our patients are clamoring for and demanding—that is what the profession have been anxiously waiting for and working for these many long years. The medical world is put where it was before and since the birth of medicine, including the period of these brilliant microbe discoveries, seeking for remedies adapted to special diseases, namely, specifics. If the germ theory should become fully established, the safest, best and most certain germicide, specific or remedy, can only be used in reference to indications; to suggestions founded upon experience, proper regard being had to its physiological effects. But let us not forget that in killing the microscopic germs we may also kill the giant upon which the little fellows are feeding. By all means let investigations be encouraged in this important line of medical progress as bearing upon the germ theory. We need all the light that is possible to be thrown upon the many dark places in our science.

The always important subject of malaria derives new interest in this germ relation because of recent experiments and discoveries. Laveran claims to have recently discovered in malarialized patients a peculiar microbe, which he asserts is not a bacterial body, but an amæboid organism, parasitic in nature, and infesting the red corpuscles. It is claimed that this organism is destructible by therapeutic doses of quinine. The assistants of Laveran, in the city of Rome, assume to have frequently verified this statement. Sternberg, of this country, says that he has demonstrated the same to Professor William H. Welch, of John Hopkins University, in whose laboratory the microscopic examination was made. The blood was drawn from a patient, it seems, in the outset of an intermittent paroxysm. Brought under the microscope, the demonstration of the amæboid organisms was made in the presence of several medical gentlemen, and to the satisfaction of Professor Welch. Sternberg cites his own laboratory experiments to show that the bacillus malarial of Klebs and Tommasi Crudelli cannot be destroyed by an amount of quinine that would be safe to administer. But the "amæboid blood parasite," as he calls the discovery of Laveran, is classed among the infusoria, and they seem susceptible to the action of quinine. Laveran claims that they are found in quantities more or less abundant in proportion to the mild or pernicious character of the infection. It is asserted that no observer has found these peculiar infusorial bodies except in malarialized persons. Time alone will show whether these assertions and claims of Laveran and his followers will become to be established scientific facts.

It would be superfluous and wearisome to detain this enlightened medical body with a discussion of the various theories that have been advanced as to the nature and cause of malaria. As you are aware, Salisbury contended that he had discovered its cause in the algæ or spores of the palmella; Burdon Sanderson, that he had discovered in his pyrogen the essential factor, and that by inoculating a healthy subject with it he could produce undoubted malarial attacks. These theories proved to be only sensational. We are all familiar with the captivating views of our own distinguished countryman, Professor Mitchell, of Philadelphia. The old theory of Lancisi, that malaria is gaseous, held sway for a long period of time over the mind of the medical world. But it remains for future investigations and discoveries to establish the true origin and

character of this subtle poison. Whether it is gaseous in form, or a chemical non-living substance, or a living organism, must be left to the scientific developments of the future. But whatever may be established as the true theory, it would seem that the combined action of heat, moisture and vegetable decomposition is essential to the production of malarial poison. This is the general observation and experience of physicians living in malarious localities. It seems to be well-founded that it gains entrance into the system by the inhalation of air, or by swallowing water containing it. More than one-half of the diseases of our State, especially of our eastern towns and counties, are due to its influence. Finding victims everywhere, insidious in its approaches, invisible, assailing, in preference, those of weakened vital forces, often masking its features and hiding itself behind some other malady, it is only to be routed when assailed by the forces at our command. It clings tenaciously to its old accustomed haunts in our eastern plains, fertile valleys, rich swamps, and along the basins and upon the borders of our streams. Causing two-thirds of the mortality of most warm countries, surely its origin and character cannot much longer be concealed from the knowledge of man. The opponents of the theory that malaria is a living substance, or caused thereby, hold up the periodicity of malarial fevers as an argument to support them, but to this the reply is made that this periodicity is owing to vital changes and periodical developments in these living bodies, and that the morbid phenomena of malarial fevers depend upon the direct action of the malarial parasite on the system.

Those who contend that, be the nature of malaria what it may, the essential factors of its production are the combined action of heat, moisture and vegetable decomposition, are met by objections. These objectors say that such a statement is more declaratory and inferential than established. If this is true, say they, the want of uniformity of action of the malarial cause, in like seasons, localities and conditions would not exist, and malarial fevers would not differ, as they do, in amount and severity, under like circumstances. But those who hold with Lancisi to the extent that said factors, in combination, are essential to malaria, argue that the absence or innocuousness of it in certain seasons and in the same locality finds an easy explanation in this, that such seasons and localities are exempt from those atmospheric vicissitudes, that ther-

mometrical and hygrometrical condition which experience teaches to be necessary to the evolution of malaria. These changing conditions of the atmosphere may augment its virulence one season and decrease it the next, or the poison may be neutralized in its action almost entirely. Every eastern practitioner knows that our sickliest malarial localities abound with much malarial sickness in some seasons, while in others, and under like physical conditions, the same localities are mostly exempt from malarial fevers. These objectors fail to admit that heat, atmospheric pressure and the purifying influence of winds, as these agencies vary in the changing phenomena of different seasons, are connected, more or less, with the modifications of the action of malaria and other etiological factors of disease. There must be an elevation of temperature, generally not less than sixty degrees, to develop the poison, and this range is sometimes presented in the winter and spring as well as in the summer and autumn of malarious regions. Hence it is that in such localities intermittents and remittents occasionally prevail in winter and spring as well as in summer and autumn. Unless the factor of sufficient heat is present the other two are imperative. If there is an excess or deficiency of moisture, if the soil is too wet or too dry, an essential factor is absent. And the same as to vegetable matter, if too much covered with water, or so much obscured by foliage that decomposition cannot take place, another material factor is absent. The importance of the subject will bear the repetition that the septic properties of this substance demand for its development the action of the agencies essential to decomposition, that a certain amount of heat is necessary thereto, that there must be a certain amount of moisture, that an excess of it arrests decomposition, that its absence will have the same effect, that the poison is promoted or retarded by atmospheric influences, and that it is modified or prevented by elevated situations. These are the agencies and conditions recognized as potent factors in the generation of malarial fevers and the results bear a direct ratio to the potency of the causes producing them. The boundaries of malaria are generally measured by the activity and strength of these factors. It diminishes in activity and power as we proceed in a northerly direction. How high it ascends is not so well settled, some saying it rises only ten or fifteen feet in calm weather, others contending that it may ascend from twenty to sixty feet. It is more probable

that its altitude depends materially upon the power and activity of the air currents, which are its wings. It is the experience of those living in malarious localities that those who select, especially at night, the second or third story of a house are more exempt from its attacks than those who sleep in a basement or upon the first floor, while those residing upon ridges or elevated situations are less liable than those remaining day and night in the plains and valleys below. Nor is it settled how far its action may extend in a horizontal direction, the distance ranging from one to two miles or more, probably depending upon obstructions and the force of the winds. Though not so common as formerly in the middle and northern States, it is not absent, under favorable circumstances and favoring conditions, from certain localities of those States. Our negro population are more exempt from it than the whites, and when attacked more readily yield to appropriate treatment. It need hardly be said that it increases in activity in proportion to its proximity to the equator. Nor are the lowlands and river margins of the eastern counties alone the natural habitat of this dreaded foe of mankind. Mountain valleys and sandy plains present, under favorable conditions, a combination of causes that produce it. Sandy and alluvial plains, baked by the sun or covered with vegetation, give rise to it, especially if alternately wet and dry. An impervious sub-soil in the depressions that prevent the natural movement of the ground-water, with a porous surface soil, favors its development. Undisturbed, porous soils are prone to give it off, while compact soils are comparatively innocuous until man's interference exposes them to the air. Build the houses and pavements of a city upon malarious soil and the malaria ceases, but remove them, even years after, so that the air and sun regain access to the soil, and it reappears. Virgin soil in similar localities that remain covered with a thick foliage of trees, does not, in general, emit it; but kill the trees and clear the land, and it abounds until vegetable decomposition ceases and drainage has made the soil dry. Conditions that favor the accumulation of stagnant ground-water and obstruct the purifying influence of atmospheric currents favor its development.

Tommasi Crudelli, the distinguished Professor of Hygiene in the University of Rome, Italy, delivered an address in August, 1884, before the International Medical Congress, at Copenhagen, upon hygienic questions relating to malaria. Before that august body he

made the following remarkable statement: "The idea that intermittent and pernicious fevers are engendered by putrid emanations from swamps and marshes, is one of those semi-scientific assumptions which have contributed much to lead astray the investigations of scientists and the work of public administrations. This idea, so widespread and so well established by the traditions of the schools, is radically false." This is a denial of the observation and experience of the world that putrid emanations from swamps and marshes engender intermittent and pernicious fevers, and that heat, moisture and vegetable decomposition, when in combined action, are not competent to produce malarial fevers. This eminent scientist admits malaria to be "a specific ferment, which engenders those [malarial] fevers by its accumulations in the atmosphere which we breathe," but denies that it is even of paludal origin, or a product of putrefaction. If emanations from swamps and marshes do not originate malarial poison, whether it consists of living organisms or not, then the profession, in all ages and countries, have cherished false doctrines and grave heresies, and it remains for this great Italian hygienist to rebuke them for their stupidity and to strike the scales of ignorance from their eyes. His malarial views are antagonistic to the views and experience of the profession generally of this Southern land. But he is only another living illustration of the large number furnished by the literature of malaria that it, too, has yet enthusiasts and fanatics, whose heresies have done, and are still doing, much injury to the cause of medical truth and sanitation. Erroneous and injurious also is he in saying that belts of forest trees, standing between low, swampy places and adjacent higher and healthy spots, afford no protection against this agent, to those living adjacent to the swampy places, but on the opposite side of the belt of trees. Trees *do* filter the infected atmosphere, and, by their limbs and foliage, *do* arrest malaria as it rises and makes wings of air currents. For this reason the intelligent farmer, if alive to his own sanitary interests, and a resident of a malarious spot, leaves a belt of woods between his residence and his lowland that he knows to be a hot-bed of malaria. Like so many others of our leading medical brethren on both sides of the ocean, who follow favorite theories and pride of opinion rather than the legitimate deductions of science, he had a special theory to sustain, and he did it, ingeniously, it is true, but upon fallacious grounds, and his conclusions are erroneous.

It is a significant fact of malaria, and of importance in a sanitary view, that those who, residing in malarious spots, abstain from drinking the surface water of wells or that of badly constructed cisterns, are more exempt from malarial disease than those who drink such water. The fact that water *does* attract, absorb and hold in solution malarial poison, has been too long and too generally neglected by our people in their arrangements for water supply and health. That the human system becomes infected in this way, as well as from breathing malarious air, is as true as that water, polluted by other substances, is productive of disease. In the one case the water becomes impregnated with malarial poison, and in the other with infection of another type. Bad drinking-water has been too greatly disregarded as a factor in summer complaints, autumnal fevers and other diseases incident to the different seasons. Our eastern people especially need reform in this important line of comfort and health. Water for drinking and cooking purposes should either be obtained from the bottom of good wells, uncontaminated by surface water or other impurities, or from good cisterns, constructed to exclude air, surface water and every impurity. Malarial poison not only lurks in the surface water of wells, springs and badly-constructed cisterns, but in the turbid waters of our sluggish streams, muddy creeks and rivers, as they bear themselves to the ocean. Significant facts like these tend to settle a question often raised by objectors that heat, moisture and vegetable decomposition are necessary to malaria in this, that malarial diseases are sometimes found in hilly regions and mountainous sections, where these factors seem to be absent. But these objections fall to the ground in the face of the fact that these factors *are* sometimes found in hilly regions and mountainous sections. The physical condition of such localities, with their basins and obstructed low places alternately wet and dry, explain the liability to malarial fevers. The hills, valleys and mountains of the middle and western counties of our State are not destitute of malarial localities and conditions. While autumnal rains and winter snows bear back to the surface of the soil atmospheric and other impurities, acting as sources of disease, the natural streams of a country are nature's chains for bearing atmospheric as well as soil impurities, as so much sewerage, to the ocean.

More active near the surface of the ground, malaria moves like

mists, rolls up hill-sides and climbs steep places. It is arrested by fires, sheets of water and trees. Ship crews lying to leeward of a malarious shore have been affected by the off-shore wind. It is liable to be generated in ships having cargoes of wood or other decaying vegetable matter, or timber and bilge.

More than a mere reference to the effects of this poison upon the human system would be superfluous before this large and learned medical body. That it tinges the skin, producing the well-known malarial physiognomy, poisons the blood, deranges the functions and nervous system, produces congestions and visceral enlargements and obstructions, as well as causes the entire family of malarial fevers, is a fact familiar to every practitioner in our eastern counties. Much of the anæmia, dyspepsia, asthma, neuralgia and other chronic affections of malarious sections originate from its action. Its chronic effects often lead to fatal structural changes of the liver, spleen and mucous membrane of the intestinal canal. These facts, so well known to our medical men, were even known to Hippocrates before he wrote on epidemics.

In regard to the symptoms of the different forms of malarial fever, they are so well known and so easily recognized, and the remedial measures so general, uniform and familiar, that scarcely a word need to be said as to the symptoms or treatment. Mercurials and quinine continue to constitute the sheet-anchor of treatment in ordinary cases of malarial or bilious remittent fever. The former to arouse the sluggish secretions and stimulate the torpid biliary organs, the latter to break up the periodicity and continuance of the fever. Chronic malarial cases, such as those described, need to be treated upon general principles, involving the condition and constitution of the patient and other surroundings. They are often so complicated and difficult as to put the practitioner fully upon his mettle. Wherever malaria exists, whether the disease is acute or chronic in form, quinine is indispensable, and in doses to meet the nature of the symptoms. It is still the only known remedy to break up malarial diseases, acute, chronic or complicated ; and this whether its antidotal power is that of a germicide or acts otherwise. In this respect no remedy can be compared to it. To whatever cause the antidotal or anti-periodic powers of this drug may be attributed, it is certain that it is the best specific or germicide known. Whether germicides are necessary or not in breaking

up malarious disease, mercurials are necessary, and this whether germicidal virtues are considered, or anti-malarial or anti-bilious action is in demand. That calomel is potent to these ends, and is essential to the cure of a large number of our hepatic and inflammatory affections, and in larger or alterative doses, is as clear to my mind as that quinine is necessary in the treatment of periodical fevers and malarial complications of disease. If the case demands mercury, no prejudices against it deter me from its use. If the high grade of the disease or the violent nature of the case calls for more anti-phlogistic treatment in the beginning, no prevailing fashion nor denunciations of "obsolete practice," or "old-fogy ideas," serve to restrain me from using the lancet.

A few remarks here upon the general treatment of inflammatory diseases and febrile complaints, as they appear in these eastern counties, are appropriate. In this enlightened day of medical progress no physician is up with the times who is not guided in his practice by those principles of etiology, diagnosis, pathology and therapeutics as are legitimate deductions from science and experience. Of course he will always regard the modifications of climate, topography, season, type of disease and those conditions and peculiarities that directly apply to the individual treated. In this way the judicious practitioner follows the lights of truth and experience. The disclosures of the pulse are, in my experience, of continued prime importance, while the temperature, tongue, secretions and excretions come in, of course, still for prominent consideration. The great fluctuations in the practice of medicine, not alone as regards the alternate employment and abandonment of certain drugs and lines of treatment, but as involving its general principles, while sometimes to be attributed to the influence of mere fashion and love of novelty, are, it is to be hoped, greatly owing to the inevitable results of increasing knowledge. Venesection, for example, so bitterly denounced for a great many years in any case, is less repudiated the last few years, when used in the first stage of very high fevers, powerful congestions and high grades of inflammation, especially if the patient is plethoric and not advanced in years. The physician who dares to use the lancet in these aggravated conditions, is not now regarded so much an old fogy, belonging to the antediluvian ages, as he was a few years ago. None are more ready to admit that the advisability of using the one or the other, or both, of these depleting measures, depends upon the

nature, stage and type of the disease, and the condition and constitution of the patient, than are the advocates of antiphlogistic treatment under the aggravated forms named.

But pneumonia, always grave and critical, has become, to a great extent, the battle-ground of controversy in regard to its etiology, nature and treatment. Whether it is a local, inflammatory disease, or an essential fever, the pulmonary affection being secondary, is now the mooted question. It is held by leading physicians in our own and other countries that the views held for centuries as to the nature and etiology of pneumonia, are erroneous. From Hippocrates down to the present day, leading medical minds have held that cold is the most constant and potent factor in the production of this disease. An individual in full and robust health, exposed to severe cold, or to cold winds, or cold rain, or when heated, exposed to cold currents of air, is liable, in the opinion of medical men of all ages, to be stricken down with pneumonia so suddenly that, until recent years, no question was raised as to the connection of the exposure as the cause, and this disease as the effect. But a set of learned men, among those who claim that the germ theory has passed from the realm of speculation to absolute and established science, have come to the front in bold denial of this doctrine of cold. These distinguished gentlemen hold that this local inflammation is an essential fever, and caused by micro-organisms, or the pneumo-coccus, as it is called. Our own distinguished American physician, Dr. Austin Flint, Sr., the Nestor of the profession in this country at the time of his recent death, was a strong believer in this theory. But even in the face of such high authority that pneumonia is an essential or specific fever, the result of a specific germ, it is certainly justifiable to say that the reasons given are unreliable and illogical. Bearing in mind that it is not a summer disease, when the warm weather and its attendant conditions are so favorable to the generation and activity of germ life—that it is much more prevalent in cold climates and in the cold and variable seasons of winter and early spring—unfavorable to germ life, is it not extremely improbable that it is caused by a specific germ, vegetable or animal? Is it reasonable that this pneumo-coccus should select its home in the lungs during the cold and chilly seasons, when pneumonia mostly prevails? Let us keep in the old paths until better ones are blazed.

Leaving this debatable ground, let it be borne in mind that inflammation of the lungs varies in danger at different times, stages and

places. In the low, adynamic form it has generally assumed in this State for many years past, the lancet is seldom called for, even in the earlier stages. Cupping, counter-irritation, poultices, expectants and medicines that lower the temperature, support the system and tend, as quinine does, to break up the disease, constitute the general practice. Depletants, ouside of a careful use of mercurials in the early stages, are seldom called for. But I have occasionally met with an uncomplicated case of pneumonia calling for the lancet as well as decided doses of calomel in the beginning, and have used both with benefit. Take the case of a strong, plethoric, vigorous man or woman, suddenly attacked with violent inflammation of the lungs. The symptoms are distressing. The face is flushed, the patient gasps for breath, perhaps unable to lie down, speech is difficult and the cough is a mere hack. Congestion soon spreads over a large portion of the lungs. There is violent action of the heart, but a weak, subdued pulse, owing to an insufficient amount of blood to the left ventricle, caused by lung obstruction. If the patient is to be saved, no time is to be lost. It is in such grave situations that I have used the lancet with benefit. As the blood flows the pulse improves, the breathing is less frequent, there is less difficulty in coughing, the patient is better in all respects, and life saved. The *modus operandi* is not so much the direct reduction of the inflammation as a relief of the violent symptoms and of the pressure which causes an over-distention of the right side of the heart. Medicines to reduce temperature will aid these restorative tendencies, conjoined with such doses of calomel as are necessary to subdue inflammatory action, using quinine as a general thing in conjunction with remedies indicated.

But it is the complication of pneumonia, as it is that of diphtheria, intestinal disorders, hepatic derangements and other diseases, with the malaria of the locality and of the preceding summer and fall months, that we are compelled to deal much in these eastern sections of the State. The practitioner who recognizes this complication in his diagnosis and therapeutics is generally the most successful in his practice. Quinine is emphatically a *sine qua non* in the treatment of malarial pneumonia, the most common form of pneumonia in malarial localities. It may well be repeated that it is the best anti-septic and so-called germicide known. Nor can it be denied that mercurials are efficient and often necessary allies in the treatment of these malarial complications, and this whether the disease is primarily congestive or

inflammatory. It seems to be more commonly the former. This is said because we often find that the cold stage of the invasion of pneumonia lasts for hours sometimes, and even days, attended with clammy perspiration, feeble pulse and evidence of additional passive congestion. This seems to be due to that paralytic condition of the capillary vessels of the lungs. Not until reaction is followed by fever are we apt to see signs of well-developed inflammation. To prevent its passage to the second stage, or that of solidification, tests the skill of the practitioner. It has not escaped the attention of the profession that in this feature and other characteristics of pneumonia, we have the testimony of that able physician and bold, original thinker in medical science, Professor Otis F. Manson, M.D. This distinguished physician, formerly of our own State, and now a leading practitioner of Richmond, Virginia, is one of those pioneers in Southern medicine who has shed new light along the pathway of his successful career. His observations, as made known in his numerous publications, were opposed for a long time, but are now generally endorsed in the experience of Southern physicians. That malarial poison, so often pent up in the system, may, by its morbific action, develop lung disease, is a fact of my own experience. It was the able researches and contributions of this Professor that early called my attention to this practical feature and emboldened me to follow him in the use of large doses of quinine. Often has it been my experience in the treatment of entire families, during the summer and fall, for malarial fever, that, as winter came on and continued, I have been called upon to treat, in succession, most or all of the members of the same family for pneumonia. This I have seen so often and for such a long series of years as to justify the conclusion that malaria and pneumonia are frequently related as cause and effect. In pneumonia, cholera-infantum, hepatic disturbances, intestinal congestions, fevers and inflammations, as they appear in our eastern counties, I always look out for malarial complications, and direct my treatment accordingly. The free use of calomel in the beginning of these is to prevent severe congestion and inflammation, followed by alterative doses, as indicated, not forgetting the free use of quinine, having regard to the bowels, skin and pulse, constitute the principal treatment, with good nutrition, tonics and stimulants to be used as changes and conditions call for them.

In the treatment of prevailing fevers in the east the intelligent physician does not fail to adapt it to the indications of the attendant

type. In one season the sthenic form predominates, in another the asthenic. In some seasons, whatever the prevailing type, the cerebral disturbances are the greatest, in others the gastric. In some years, also, malarial fevers are more resistant to ordinary treatment, and are more prone to take on a continued form, giving rise to the belief, still held by many, that another etiological factor combines with malaria in causing the fever. While the name of continued, or continuous fever, finds favor with the majority, that of typho-malarial is still claimed by some to be the most correct and expressive. However this may be, prevailing fevers seem to be modified in character and form by the physical conditions of localities and climate, as are other diseases. The mooted question remains, whether two etiological factors can be in active operation in the system at the same time, causing a hybrid disease, or a mooted form of fever.

In this connection let me relate a striking and interesting case that came under my care and treatment in the winter of 1885. The patient was a white girl of twelve years. The case, when I first saw it, was undoubted typhoid fever. Two weeks previous she had been attacked with severe malarial fever, and was, on my first visit, scarcely convalescent. Her condition was one of danger for two weeks. Then, to my surprise, diphtheria was developed. Thus was my little patient, still feeble from her malarial attack, suffering from two separate and dangerous diseases at the same time. I obtained, in consultation, the presence and services, at the bedside, of that able physician, Dr. William George Thomas, of Wilmington. We successfully combatted both diseases, but not until the sufferer had passed through the ups and downs, for several weeks, of this dangerous complication. Thus was the unusual spectacle presented of typhoid virus and of the poison of diphtheria existing in the same individual at the same time, to say nothing of the malarial poisoning.

A few words will here be in place upon Southern physicians. They are too prone to forget, in their admiration of medical brethren at the North and in Europe, that disease, as already intimated, very much derives its type and character from the topography and climate of the locality in which it appears, and that the treatment should be applied accordingly. More regard to this principle would enable us to be more successful in the diagnosis, preservation and treatment of both medical and surgical diseases. Fashion, and not science, or reason, or judgment, is too potent in

inducing our invalids and sick people to seek Northern health resorts and Northern medical aid in preference to our own unsurpassed watering places. Southern methods of treating Southern diseases are more successful, in general, than are those practiced at the North upon Southern patients who go there for relief. Malaria is always more difficult to be eliminated when associated with slow, lingering diseases of any of the organs or structures. Patients, in such a condition, who go to a Northern or colder climate for health, recreation or treatment, encounter risks of getting worse, and many of them die because of the effects of such a change. Many sad and fatal cases of this kind, that occurred even within the last few years, are fresh in my recollection, and convey significant lessons. It is nothing new to assert the proneness of colder climates to develop and render more fatal Southern malaria when it is carried thence from warmer climates, and to aggravate chronic cases, which, with malarial poison in association, go North or to a colder atmosphere for treatment.

But however all this may be, let us continue to march onward to the goal of success in investigations of the etiology, pathology and treatment of disease. There are mysteries of malaria, typhoid fever, yellow fever, cholera, hydrophobia, pyæmia, consumption and other diseases, yet to be solved. Southern scientists and Southern physicians are as able to make these investigations as are those of any part of the world. We have diseases peculiar to this Southern land, and general diseases modified by Southern topography and Southern climate, which Southern medical men can examine into successfully, and which they are al le to treat with the most success.

And now, in conclusion, it is refreshing to know that, of the diseases mentioned, there is scarcely more than one or two not the result of avoidable or removable causes. The invading hosts of sanitation and general improvement, with their remarkable means and preventable measures, are more than ever coming to the rescue of the health and lives of our people. Those common enemies of the public good, in the production of fevers and other avoidable diseases, recognized in uncleanliness, bad air, bad water, bad soil, bad ventilation, bad cooking and filth, are gradually leaving their old, accustomed haunts. If there is any truth in science and any dependence to be placed in patriotism and humanity in making and enforcing just and wholesome legal enactments, the days are num-

bered of the entire family of malarial and typhoid fevers, zymotic diseases, and other destructive, but yet preventable, diseases. The key to our deliverance is in preventive medicine, with its invincible measures of removal and means of prevention.

Let us not forget that the arch enemy of mankind, malaria, still lingers in our swamps and valleys and upon our eastern plains. Its poisonous domain still comprises a large portion of our State, embracing millions of acres of as rich swamps and fertile lands as the fairest regions of the earth present. It is under the will and dominion of man, as he wields against it the axe, the spade and the plow. Drainage and agricultural improvement are the great instrumentalities for banishing the fell destroyer from all our borders and opening up to the comfort and profit of man the magnificent regions of its present abode. Development of these great sources of wealth means not alone destruction to the deadly poison, but such an increase in the value of real estate and such an augmentation in the treasury of the State and counties as will show the expenses for the reclamation to be wise and every way profitable and judicious. Under such a health-giving and productive system the years will soon come when these vast regions of unreclaimed eastern lands will be under the dominion of profitable agriculture and the garden-spot of the State in prosperity, health and enlightened progress.

LIST OF MEMBERS OF THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.

[This mark (*) opposite a name indicates attendance at the meeting in New Bern May, 1886.]

Dr Abernethy, W L, Hickory.
" Adams, C E, Gastonia.
" Adams, M R, Statesville.
" Adams, R H, Gastonia.
" Alexander, A L, Cowan's Fr'd.
" Alexander, L L, Topsail Sou'd.
" Alexander, S J, Randalsburg.
" Alford, R M, Greensborough.
" Allison, John A, Statesville.
" *Alston, B P, Henderson.
" *Alston, Willis, Littleton.
" *Anders, W W K, Gravel Hill.
Dr Anderson, C H, Mocksville.
" Anderson, E A, Wilmington.
" Anderson, J, Calahan.
" Anderson, J H, Tarborough.
" Anderson, Thos E, Statesville.
" *Archey, L M, Concord.
" *Ashe, E F, Wadesborough.
" Attmore, Geo S, Stonewall.
" *Bahnson, H T, Salem.
" Baird, J H, Briggsville.
" Baker, J H, Tarborough.
" *Baker, Julian M, Tarborough.

Dr Balsley, T E, Reidsville
" Barrier, P A, Mt Pleasant
" Barringer, Paul B, Davidson C
" Barron, C R, Toisnot
" Bass, H T, Tarborough
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" Battle, K P, Jr, Raleigh
" Battle, L W, Durham
" Baynes, R S, Bushy Fork
" Beall, W P, Greensborough
" Beckwith, Jno B, Smithfield
" Bell, J S, Matthews
" *Bellamy, W J H, Wilmington
" Benton, J H, Newton Grove
" *Best, W L, Johnson's Mills
" Bobbitt, Wm H, Raleigh
" Bodie, N P, Palmyra
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" Bolton, Maryland, Rich Square
" Booker, E Nelson, Leachburgh
" *Booth, Patr'ck, Knap-of-Reeds
" *Booth, S D, Oxford
" *Boy Ette, J M, Little River A
" Bradshaw, Wm G, Lexington
" Bradsher, C E, Hurdle's Mills
" Bradsher, C M, Hurdle's Mills
" Brank, Joe, Weaverville
" Braswell, J C, Whitakers
" *Brodie, Walter, Wilson
" Brown, Frank W, Greenville
" Brown, Zeno, Greenville
" Brownson, W C, New Canaan
" *Broyles, F, Asheville
" Bryant, C G, Rich Square
" Budd, A V Egypt
" Bulluck, D W, Whitakers
" *Bulluck, Thos C, Blockers
" Bunn, M O, (removed)
" Burbank, T S, Wilmington
" Burroughs, Jas A, Asheville
" Cable, W A, Brick Church
" Cain, D J, Asheville
" *Caldwell, D G, Tulin
" *Carr, A G, Durham
" *Carr, John B, Old Sparta
" *Chapin, H T, Pittsborough
" Chappell, Leroy, Forrestville
" *Cheatham, W T, Henderson
" Cheek, D A, Greensborough
" *Clark, Ed, Middleton
" Clark, H J, Hamilton
" Clingman, J J, Huntsville
" Cobb, W H H, Goldsborough
" *Coleman, J I, Hurdle's Mills
" Collins, J A, Enfield
" Cook, J H, Durham
" *Cooke, W J, Louisburg
" Cooper, Fleet J, Hines
" Cope, Geo C, Heiglig's Mills

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" Covington, J M, Rockingham
" Cowan, R E, Rowan Mills
" Cox, Jos J, New Garden
" Craigmills, J C, Marshall
" Crisp, W B, Olive Grove
" Crowell, E, Lincolnton
" Crowell, T A, Monroe
" Dalton, D N, Winston
" De Armond, H K, Pineville
" Dillard, Richard, Jr, Edenton
" Dixon, A P, Queensdale
" *Dodd, Gaston H, Clayton
" *Dorsett, E, Rose, Salisbury
" Dorsett, ——, Bethany
" Drake, John A, Battleborough
" *Duffy, Chas, Catherine Lake
" *Duffy, Chas, Jr, New Bern
" *Duffy, Francis, New Bern
" *Dunn, Jas B, Raleigh
" *Eagles, C W, Old Sparta
" Ector, J G, Friendship
" Edwards, G C, Hookerton
" Edwards, Wm, Castalia
" Ellis, R B, Raleigh
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" Ennett, Geo N, Saunders' Store
" *Ennett, W T, Burgaw
" Evans, S B Statesville
" Exum, W P, Goldsborough
" Faison, J H, Faison
" *Faison, John M, Faison
" Faison, J Wellington, Mt Olive
" Faison, W W, Goldsborough
" *Ferguson, H B, Halifax
" Ferguson, K M, Cameron
" Fink, John, Concord
" Fletcher, G W, Shufordsville
" Fletcher, M H, Shufordsville
" Flowers, S B, Mt Olive
" Foote, Geo A, Warrenton
" Foster, E S, Louisburgh
" Fox, M F, Greensborough
" *Freeman, W G, Murfreesbo'h
" Frontis, D B, Lexington
" Fuller, F T, Raleigh
" *Futrell, M H, Woodland
" *Gaither, J B, Mill Bridge
" Galloway, W C, Snow Hill
" Garrett, F M, All Heal'g Spr'gs
" Gidney, J C, Shelby
" Gilkey, J H, Marion
" Gilmer, S J, Concord
" Glenn, C M, Greensborough
" Glenn, R W, Greensborough
" *Graham, Geo W, Charlotte
" *Graham, Joseph, Charlotte
" Gray, R F, Winston
" Green, Isaac E, Warrenton

Dr Gregory, Oscar L, Halifax
" Griffin, J S, Lewiston
" Griffith, Jas E, Clemmonsville
" Grimes, R J, Robersonville
" Grimsley, J L, Snow Hill
" Grissom, Eugene, Raleigh
" Gunn, J L, Yanceyville
" Gunter, J B, Durham
" Hadley, J M, La Grange
" *Haigh, T D, Fayetteville
" Hall, J B, Scotland Neck
" *Hall, J K (D), Greensborough
" *Hamer, A W, Laurinburgh
" Hardie, P R, Durham
" Harding, T R, Huntsville
" Hardy, John G, Asheville
" Hargrove, R H, Robersonville
" *Harper, M W, Harpers
" Harrell, J F, Whiteville
" Harris, F R, Henderson
" *Harris, H H, Wake Forest
" Harris, T W, Chapel Hill
" *Hassell, W S, Jamesville
" *Hayes, J Mc, Oxford
" Haywood, E B, Raleigh
" Haywood, F J, Raleigh
" Haywood, Hubert, Raleigh
" Haywood, R B, Raleigh
" Henderson, F M, (removed)
" Herndon, W T, Morrisville
" Herron, A M, Charlotte
" Hicks, W N, Fish Dam
" Hill, A A, Lexington
" Hill, L H, Germantown
" Hill, M W, Statesville
" Hill, Thomas Goldsborough
" *Hilliard, W D, Asheville
" Hilliard, W L, Asheville
" Hines, P E, Raleigh
" Hodges, J A, Fayetteville
" *Hodges, Jas M, Mt Olive
" Hollingsworth, Jas, Mt Airy
" Hollingsworth, W R, Mt Airy
" Holmes, Allman, Clinton
" *Hornaday, E H, Willow Green
" Houston, O P, Mt Ulla
" Hudson, W L, Hawley's Store
" *Hughes, F W, New Bern
" *Hughes, J B, New Bern
" Hunt, L G, Huntsville
" Hunter, L W, Charlotte
" *Hunter, M C, Huntersville
" Huntley, A B, Wadesborough
" Hussey, L, Warsaw
" Irwin, John, Villa Franca
" Irwin, J R, Alexandriana
" Ivy, H T, Fayetteville
" *Jackson, H C, Pittsborough
" James, F C, Bethel

Dr Johnson, W G, Farmington
" Jones, A S, Warrenton
" Jones, Beverly, Bethania
" Jones, J B, Charlotte
" *Jones, J W, Tarborough
" Jones, S R, Charlotte
" Jones, Thos J, Lansing
" *Jones, W J, Goldsborough
" *Jordan, Thos M, Hookerton,
" Keever, A P, Keeversville
" *Kenedy, W P, Warsaw
" Killebrew, C S, Tarborough
" King, E De La R, Goldsbor'gh
" King, Joel G, Warrenton
" *Kirba, Geo L, Goldsborough
" Kirkpatrick, J M, La Grange
" Knight, J L, Tarborough
" Knox, A W, Raleigh
" Lackey, R S, Amity Hill
" Land, H G, Poplar Branch
" Lane, W W, Wilmington
" *Lee, A M, Clinton
" Leggett, K, Palmyra
" Lewis, R F, Lumberton
" *Lewis, R H, Raleigh
" Lilly, H W, Fayetteville
" Lilly, W H, Concord
" *Littlejohn, E M, Thomasville
" Litz, A W, Tyro Shops
" Lloyd, Geo S, Tarborough
" Long, B L, Hamilton
" *Long, Geo W, Graham
" *Long, J F, New Bern
" Long, John W, Randleman's
" Love, Wm J, Wilmington
" Lucas D, Enfield
" Lucas, Geo F, Point Caswell
" Lyle, J M, Franklin
" Lyle, S H, Franklin
" Lyon, D S, (removed)
" McClelland, J R, Mooresville
" McClure, S C, Statesville
" McCombs, J P, Charlotte
" McCorkle, J R, Mooresville
" McDonald, A D, Wilmington
" *McDonald, Jno, Washington
" McDowell, W O, Scotla'd Neck
" McDuffie, W C, Fayetteville,
" McGee, J W, Raleigh
" McJohnston, N, Durham
" McKay, J F, Averysborough
" McKee. James, Raleigh
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" McLeod, Gilbert, Morven
" McLinden, W J, Wadesbor'gh
" McMillan, B F, Plainview
" McMillan, J D, Lumberton

Dr McMillan, J L, Red Springs
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" *McNeill, J W, Fayetteville
" McNider, V St Clair, Jackson
" McRae, Jas A, Fayetteville
" McSwain, T C, Fayetteville
" Macon, P J, Warrenton
" Macumber, J L, (removed)
" Mallett, W P, Chapel Hill
" *Manney, Jas L, Beaufort
" Manning, J M, Pittsborough
" *Matthews, G E, Ringwood
" *Mattock, C J, Pollocksville
" Maynard, A A, Clayton
" *Meisenheimer, C A, Pioneer M
" Meisenheimer, T F, Morven
" Mercer, J R, Tarborough
" Mercer, W P, Toisnot
" Miller, J F, Goldsborough
" Miller, J M, Charlotte
" Montague, S J, Winston
" Montgomery, S L, Mason
" Moore, C E, Battleborough
" Moore, Thos J, Richmond, Va
" Moose, J W, Mt Pleasant
" Murdock, W A, Mt Ulla
" *Murphy, P L, Morganton
" *Murphy, W C So Washin'ton
" Murray, H P, Wallace
" *Nicholson, J L, Richlands
" *Nicholson, J T, Bath
" *Nicholson, S T, Washington
" Noble, R J, Selma
" Norcom, H S, Washington, D C
" Norcap, Percy T, (removed)
" O'Brien, John, Halifax
" *O'Hagan, Chas J, Greenville
" O'Kelly, J M, Williams' Mills
" *Pair, A D, Eagle Rock
" Pate, W T, Laurel Hill
" Patterson, D N, Mangum
" Payne, R L, Lexington
" Payne, R L, Jr, Lexington
" Perry, Jas C, Newbegun
" Perry, M P, Macon
" Petteway, P S, Enfield
" Pharr, T F, Concord
" Pharr, W J N, Query's
" Phillips, M D, Dalton
" *Picot, L J, Littleton
" *Pierce, A B, Weldon
" Pittman, N J, Tarborough
" Pollock, John A, Kinston
" *Pool, C M, Salisbury
" *Porter, Elisha, Rocky Point
" Porter, Robert J, Youngsville
" Potter, F W, Wilmington
" Powell, J H, Goldsborough
" Powell, T C, Rocky Mount

Dr Powell, W E, Castoria
" Powers, J B, Wake Forest C
" Powers, K J, Camera
" Powers, L M, Plymouth
" Prince, D M, Laurinburgh
" Pritchard, Wm B, Faison
" Pugh, E W, Windsor
" Purefoy, G W, Asheville
" Ramsay, J G, Rowan Mills
" *Reagan, J A, Weaverville
" Reagan, W L, Ivy
" Reinhart, D B, Thomasville
" Richardson, J M, Lincolnton
" Richardson, W E, Eagle Rock
" Ritter, F W, Shiloh
" Roberson, A B, Chapel Hill
" *Roberts, J D, Goldsborough
" Robertson, T B, Neuse
" Robeson, R R, Kyle's Landing
" *Robinson, M E, Goldsborough
" *Robinson, G J, Smithfield
" Robinson, O P, Arkansas
" *Rogers, S H, Raleigh
" *Rountree, F M, Kinston
" Royster, T S, Williamsborough
" Royster, W J, Raleigh
" Ruffin, Jno K, Wilson
" Sasser, L L, Smithfield
" *Satchwell, S S, Rocky Point
" Savage, M T, Scotland Neck
" Scales, Jeff, Staten Island, N Y
" Schenck, D R, Valley Town
" Schonwald, J T, Wilmington
" Seawell, V N, Wallace
" Sexton, J A, Raleigh
" Shaffner, J F, Salem
" Shepard, J C, Scott's Hill
" *Shubrick, J T, Winston
" Siewers, N S, Salem
" Sikes, G T, Grissom
" Sills, David N, Castalia
" Sills, R A Nashville
" Sledge, J T, Greenville
" Sloan, Henry, Lisbon
" Small, W P, Washington
" Smallwood, Jno P, Lewiston
" Smith, Geo A, Princeton
" *Smith, G G, Concord
" Smith, John W, Reidsville
" Smith, Julian A, (removed)
" Sorrell, L P, Kelvin Grove
" *Sparrow, S P, Sladesville
" Speed, E T, Tarborough
" Speight, R H, Tarborough
" *Spencer, R T, Chalk Level
" Spruill, W T, Youngsville
" Stansill, J McQ, Rockingham
" Statton, L L, Tarborough
" *Stevens, John A, Clinton

Dr Stevenson, S W, Mooresville*
" Stith, L A, (removed)
" *Street, N H, Pollocksville
" Strickland, J T, Thomasville
" Sugg, J P, Kittrell
" Summerell, E M, Salisbury
" *Summerell, J J, Salisbury
" *Tayloe, D T, Washington
" *Taylor, Isaac N, China Grove
" *George G, Wilmington
" *Thomas, R W, Durham
" Thomas, Will Geo, Wilmingt'n
" Thorpe, F J, Rocky Mount
" Tomlinson, J M, Bush Hill
" Trantham, H T, Salisbury
" Tucker, J H, Henderson
" *Tull, Henry, Kinston
" *Turlington, W E, Elevation
" Utley, B S, Holly Springs
" Vick, Josh W, Selma
" *Vicker, Thos A, Durham
" Waldo, S P, Cary
" Walton, John C, ——,
" *Ward, W H, Plymouth
" Weaver, H B, Weaverville
" Webb, B G, Asheville
" West, Geo H, Newton
" *Whitaker, Fred A, Trenton
" Whitaker, H H, Battleborough
" Whitaker, R A, Trenton

Dr White, E T, Oxford
" Whitehead, John, Salisbury
" *Whitehead, W H, Battlebo'gh
" Whiteside, B F, Hickory
" Whiteside, J C, Morganton
" *Whitfield, W C, Sladesville
" Whitley, V A, Norwood
" Whittington, W P, Burnsville
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" Williams, E P, Cedar Creek
" Williams, John H, Asheville
" Wilson, A R, Greensborough
" Wilson, J R, Harris' Depot
" Wilson, R J, Swanannoa
" *Wilson, W H, Dallas
" Wilson, W R, (removed)
" Wimberly, G D, Tarborough
" Winborne, R H, Edenton
" Winston, C, Franklinton
" Winston, J T, Youngsville
" Wise, J A, Red Mountain
" Wood, Thos F, Wilmington
" *Wood, Wm R, Scotland Neck
" Woods, H B, Rowan Mills
" Woods, S B, Bell's Ferry
" Woolen, C W, Randlemann's
" Woolen, W A, Randlemann's
" York, N D, Morrisville
" *Young, R S, Concord
" *Zollicoffer, D B, Garysburg

——o——

HONORARY MEMBERS.

Dr J D Bellamy, Wilmington
" R Dillard, Edenton
" John H Hill, Goldsborough
Dr W T Howard, Baltimore, Md
" O F Manson, Richmond, Va
Prof L A Sayre, M.D., New York
*Dr Hunter McGuire, Richmond, Va.

CODE OF MEDICAL ETHICS.

OF THE DUTIES OF PHYSICIANS TO THEIR PATIENTS, AND THE OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

Article I.—*Duties of physicians to their patients.*

§ 1. A physician should not only be ever ready to obey the calls of the sick, but his mind ought also to be imbued with the greatness of his mission, and the responsibility he habitually incurs in its discharge. These obligations are the more deep and enduring, because there is no tribunal other than its own conscience to adjudge penalties for carelessness or neglect. Physicians should, therefore, minister to the sick with due impressions of the importance of their office; reflecting that the ease, the health and the lives of those committed to their charge depend on their skill, attention and fidelity. They should study, also, in their deportment, so to unite *tenderness* with *firmness*, and *condescension* with *authority*, as to inspire the minds of their patients with gratitude, respect and confidence.

§ 2. Every case committed to the charge of a physician should be treated with attention, steadiness and humanity. Reasonable indulgence should be granted to the mental imbecility and caprices of the sick. Secrecy and delicacy, when required by peculiar circumstances, should be strictly observed; and the familiar and confidential intercourse to which physicians are admitted in their professional visits, should be used with discretion and with the most scrupulous regard to fidelity and honor. The obligation of secrecy extends beyond the period of professional services; none of the privacies of personal and domestic life, no infirmity of disposition or flaw of character observed during the professional

attendance should ever be divulged by the physician, except when he is imperatively required to do so. The force and necessity of this obligation are indeed so great, that professional men have, under certain circumstances, been protected in their observance of secrecy by courts of justice.

§ 3. Frequent visits to the sick are in general requisite, since they enable the physician to arrive at a more perfect knowledge of the disease—to meet promptly every change which may occur, and also tend to preserve the confidence of the patient. But unnecessary visits are to be avoided, as they give useless anxiety to the patient, tend to diminish the authority of the physician, and render him liable to be suspected of interested motives.

§ 4. A physician should not be forward to make gloomy prognostications, because they savor of empiricism, by magnifying the importance of his services in the treatment or cure of the disease. But he should not fail, on proper occasions, to give to the friends of the patient timely notice of danger when it really occurs; and even to the patient himself, if absolutely necessary. This office, however, is so peculiarly alarming when executed by him, that it ought to be declined whenever it can be assigned to any other person of sufficient judgment and delicacy. For the physician should be the minister of hope and comfort to the sick; that, by such cordials to the drooping spirit, he may smooth the bed of death, revive expiring life and counteract the depressing influence of those maladies which often disturb the tranquility of the most resigned in their last moments. The life of a sick person can be shortened, not only by the acts, but also by the words or the manner of a physician. It is, therefore, a sacred duty to guard himself carefully in this respect, and to avoid all things which have a tendency to discourage the patient and to depress his spirits.

§ 5. A physician ought not to abandon a patient because the case is deemed incurable; for his attendance may continue to be highly useful to the patient and comforting to the relatives around him, even in the last period of a fatal malady, by alleviating pain and other symptoms, and by soothing mental anguish. To decline attendance, under such circumstances, would be sacrificing to fanciful delicacy and mistaken liberality, that moral duty which is independent of, and far superior to, all pecuniary consideration.

§ 6. Consultations should be promoted in difficult or protracted

cases, as they give rise to confidence, energy and more enlarged views in practice.

§ 7. The opportunity which a physician not unfrequently enjoys of promoting and strengthening the good resolutions of his patients, suffering under the consequences of vicious conduct, ought never to be neglected. His counsels, or even remonstrances, will give satisfaction, not offense, if they be proffered with politeness, and evince a genuine love of virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed.

Art. II.— *Obligations of patients to their physicians.*

§ 1. The members of the medical profession, upon whom is enjoined the performance of so many important and arduous duties toward the community, and who are required to make so many sacrifices of comfort, ease and health, for the welfare of those who avail themselves of their services, certainly have a right to expect, and require, that their patients should entertain a just sense of the duties which they owe to their medical attendants.

§ 2. The first duty of a patient is to select as his medical adviser one who has received a regular professional education. In no trade or occupation do mankind rely on the skill of an untaught artist; and in medicine, confessedly the most difficult and intricate of the sciences, the world ought not to suppose that knowledge is intuitive.

§ 3. Patients should prefer a physician whose habits of life are regular, and who is not devoted to company, pleasure, or to any pursuit incompatible with his professional obligations. A patient should always confide the care of himself and family, as much as possible, to one physician; for a medical man who has become acquainted with the peculiarities of constitution, habits and predispositions of those he attends, is more likely to be successful in his treatment than one who does not possess that knowledge.

A patient who has thus selected his physician should always apply for advice in what may appear to him trivial cases, for the most fatal results often supervene on the slightest accidents. It is of still more importance that he should apply for assistance in the forming stage of violent diseases; it is to a neglect of this precept that medicine owes much of the uncertainty and imperfection with which it has been reproached.

§ 4. Patients should faithfully and unreservedly communicate to

their physician the supposed cause of their disease. This is the more important, as many diseases of a mental origin simulate those depending on external causes, and yet are only to be cured by min istering to the mind diseased. A patient should never be afraid of thus making his physician his friend and adviser ; he should always bear in mind that a medical man is under the strongest obligations of secrecy. Even the female sex should never allow feelings of shame or delicacy to prevent their disclosing the seat, symptoms and causes of complaints peculiar to them. However commendable a modest reserve may be in the common occurrences of life, its strict observance in modern medicine is often attended with the most serious consequences, and a patient may sink under a painful and loathsome disease, which might have been readily prevented had timely intimation been given to the physician.

§ 5. A patient should never weary his physician with a tedious detail of events or matters not appertaining to his disease. Even as relates to his actual symptoms, he will convey much more real information by giving clear answers to his interrogatories, than by the most minute account of his own framing. Neither should he obtrude upon his physician the details of his business, nor the history of his family concerns.

§ 6. The obedience of a patient to the prescriptions of his physician should be prompt and implicit. He should never permit his own crude opinions as to their fitness to influence his attention to them. A failure in one particular may render an otherwise judicious treatment dangerous, and even fatal. This remark is equally applicable to diet, drink and exercise. As patients become convalescent they are very apt to suppose that the rules prescribed for them may be disregarded, and the consequence, but too often, is a relapse. Patients should never allow themselves to be persuaded to take any medicine whatever that may be recommended to them by the self-constituted doctors and doctresses who are so frequently met with, and who pretend to possess infallible remedies for the cure of every disease. However simple some of their prescriptions may appear to be, it often happens that they are productive of much mischief, and in all cases they are injurious, by contravening the plan of treatment adopted by the physician.

§ 7. A patient should, if possible, avoid even the *friendly visits of a physician* who is not attending him—and when he does receive

them, he should not converse on the subject of his disease, as an observation may be made, without any intention of interference, which may destroy his confidence in the course he is pursuing, and induce him to neglect the directions prescribed to him. A patient should never send for a consulting physician without the express consent of his own medical attendant. It is of great importance that physicians should act in concert; for although their modes of treatment may be attended with equal success when applied singly, yet conjointly they are very likely to be productive of disastrous results.

§ 8. When a patient wishes to dismiss his physician, justice and common courtesy require that he should declare his reasons for so doing.

§ 9. Patients should always, when practicable, send for their physician in the morning, before his usual hour of going out; for by being early aware of the visits he has to pay during the day, the physician is able to apportion his time in such a manner as to prevent an interference of engagements. Patients should always avoid calling on their medical adviser unnecessarily during the hours devoted to meals or sleep. They should always be in readiness to receive the visits of their physicians, as the detention of a few minutes is often of serious inconvenience to him.

§ 10. A patient should, after his recovery, entertain a just and endearing sense of the value of the services rendered him by his physician; for these are of such a character that no mere pecuniary acknowledgment can repay or cancel them.

OF THE DUTIES OF PHYSICIANS TO EACH OTHER AND TO THE PROFESSION AT LARGE.

ART. I.—*Duties for the support of professional character.*

§ 1. Every individual, on entering the profession, as he becomes thereby entitled to all its privileges and immunities, incurs an obligation to exert his best abilities to maintain its dignity and honor, to exalt its standing and to extend the bounds of its usefulness. He should, therefore, observe strictly such laws as are instituted for the government of its members; should avoid all contumelious and sarcastic remarks relative to the faculty as a body; and while, by unwearied diligence, he resorts to every honorable means of enrich-

ing the science, he should entertain a due respect for his seniors, who have, by their labors, brought it to the elevated condition in which he finds it.

§ 2. It is not in accord with the interests of the public or the honor of the profession that any physician or medical teacher should examine or sign diplomas or certificates of proficiency for, or otherwise be specially concerned with, the graduation of persons whom they have good reason to believe intend to support and practice any exclusive and irregular system of medicine.

§ 3. There is no profession, from the members of which greater purity of character und a higher standard of moral excellence are required than the medical ; and to attain such eminence is a duty every physician owes alike to his profession and to his patients. It is due to the latter, as, without it, he cannot command their respect and confidence, and to both, because no scientific attainments can compensate for the want of correct moral principles. It is also incumbent upon the faculty to be temperate in all things, for the practice of physic requires the unremitting exercise of a clear and vigorous understanding ; and on emergencies, for which no professional man should be unprepared, a steady hand, an acute eye and an unclouded head may be essential to the well-being, and even to the life, of a fellow-creature.

§ 4. It is derogatory to the dignity of the profession to resort to public advertisements, or private cards, or handbills, inviting the attention of individuals affected with particular diseases—publicly offering advice and medicine to the poor gratis, or promising radical cures ; or to publish cases and operations in the daily prints, or suffer such publications to be made ; to invite laymen to be present at operations, to boast of cures and remedies, to adduce certificates of skill and success, or to perform any other similar acts. These are the ordinary practices of empirics, and are highly reprehensible in a regular physician.

§ 5. Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument or medicine ; or to dispense a secret *nostrum*, whether it be the composition or exclusive property of himself or of others. For if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality ; and if mystery alone give it value and importance, such craft implies either disgraceful igno-

rance or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them.

ART. II.—*Professional services of physicians to each other.*

§ 1. All practitioners of medicine, their wives and their children while under the paternal care, are entitled to the gratuitous services of any one or more of the faculty residing near them, whose assistance may be desired. A physician afflicted with disease is usually an incompetent judge of his own case; and the natural anxiety and solicitude which he experiences at the sickness of a wife, a child, or any one who, by the ties of consanguinity, is rendered peculiarly dear to him, tend to obscure his judgment and produce timidity and irresolution in his practice. Under such circumstances, medical men are peculiarly dependent upon each other, and kind offices and professional aid should always be cheerfully and gratuitously afforded. Visits ought not, however, to be obtruded officiously, as such unasked civility may give rise to embarrassment, or interfere with that choice on which confidence depends. But, if a distant member of the faculty, whose circumstances are affluent, request attendance, and an honorarium be offered, it should not be declined, for no pecuniary obligation ought to be imposed which the party receiving it would not wish to incur.

ART. III.—*Of the duties of physicians as respects vicarious offices.*

§ 1. The affairs of life, the pursuit of health and the various accidents and contingencies to which a medical man is peculiarly exposed, sometimes require him temporarily to withdraw from his duties to his patients and to request some of his professional brethren to officiate for him. Compliance with this request is an act of courtesy which should always be performed with the utmost consideration for the interest and character of the family physician, and when exercised for a short period, all the pecuniary obligations for such service should be awarded to him. But if a member of the profession neglect his business in quest of pleasure and amusement, he cannot be considered as entitled to the advantages of the frequent and long-continued exercise of this fraternal courtesy without awarding to the physician who officiates the fees arising from the discharge of his professional duties.

In obstetrical and important surgical cases, which give rise to unusual fatigue, anxiety and responsibility, it is just that the fees accruing therefrom should be awarded to the physician who officiates.

ART. IV.— *Of the duties of physicians in regard to consultations.*

§ 1. A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession. Nevertheless, as in consultations, the good of the patient is the sole object in view, and this is often dependent on personal confidence, no intelligent regular practitioner, who has a license to practice from some medical board of known and acknowledged respectability, recognized by this Association, and who is in good moral and professional standing in the place in which he resides, should be fastidiously excluded from fellowship, or his aid refused in consultation, when it is requested by the patient. But no one can be considered as a regular practitioner or a fit associate in consultation, whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession and of the aids actually furnished by anatomy, physiology, pathology and organic chemistry.

§ 2. In consultations no rivalship or jealousy should be indulged; candor, probity and all due respect should be exercised toward the physician having charge of the case.

§ 3. In consultations the attending physician should be the first to propose the necessary questions to the sick; after which the consulting physician should have the opportunity to make such further inquiries of the patient as may be necessary to satisfy him of the true character of the case. Both physicians should then retire to a private place for deliberation; and the one first in attendance should communicate the directions agreed upon to the patient or his friends, as well as any opinions which it may be thought proper to express. But no statement or discussion of it should take place before the patient or his friends, except in the presence of all the faculty attending, and by their common consent; and no *opinions* or *prognostications* should be delivered which are not the result of previous deliberation and concurrence.

§ 4. In consultations the physician in attendance should deliver his opinion first; and when there are several consulting they should deliver their opinions in the order in which they have been called in. No decision, however, should restrain the attending physician from making such variations in the mode of treatment as any subsequent unexpected change in the character of the case may demand. But such variation, and the reasons for it, ought to be carefully detailed at the next meeting in consultation. The same privilege belongs also to the consulting physician if he is sent for in an emergency, when the regular attendant is out of the way, and similar explanations must be made by him at the next consultation.

§ 5. The utmost punctuality should be observed in the visit of physicians when they are to hold consultations together, and this is generally practicable, for society has been considerate enough to allow the plea of a professional engagement to take precedence of all others, and to be an ample reason for the relinquishment of any present occupation. But as professional engagements may sometimes interfere and delay one of the parties, the physician who first arrives should wait for his associate a reasonable period, after which the consultation should be considered as postponed to a new appointment. If it be the attending physician who is present, he will, of course, see the patient and prescribe; but if it be the consulting one, he should retire, except in case of emergency, or when he has been called from a considerable distance, in which latter case he may examine the patient, and give his opinion in *writing*, and *under seal*, to be delivered to his associate.

§ 6. In consultations theoretical discussions should be avoided, as occasioning perplexity and loss of time. For there may be much diversity of opinion concerning speculative points, with perfect agreement in those modes of practice which are founded, not on hypothesis, but on experience and observation.

§ 7. All discussions in consultation should be held as secret and confidential. Neither by words nor manner should any of the parties to a consultation assert or insinuate that any part of the treatment pursued did not receive his assent. The responsibility must be equally divided between the medical attendants—they must equally share the credit of success as well as the blame of failure.

§ 8. Should an irreconcilable diversity of opinion occur when several physicians are called upon to consult together, the opinion of the

majority should be considered as decisive; but if the numbers be equal on each side, then the decision should rest with the attending physician. It may, moreover, sometimes happen that two physicians cannot agree in their views of the nature of the case, and the treatment to be pursued. This is a circumstance much to be deplored, and should always be avoided, if possible, by mutual concessions, as far as they can be justified by a conscientious regard for the dictates of judgment. But in the event of its occurrence, a third physician should, if practicable, be called to act as umpire; and if circumstances prevent the adoption of this course, it must be left to the patient to select the physician in which he is most willing to confide. But as every physician relies upon the rectitude of his judgment, he should, when left in the minority, politely and consistently retire from any further deliberation in the consultation or participation in the management of the case.

§ 9. As circumstances sometimes occur to render a *special consultation* desirable, when the continued attendance of two physicians might be objectionable to the patient, the member of the faculty whose assistance is required in such cases should sedulously guard against all future unsolicited attendance. As such consultations require an extraordinary portion of both time and attention, at least a double honorarium may be reasonably expected.

§ 10. A physician who is called upon to consult should observe the most honorable and scrupulous regard for the character and standing of the practitioner in attendance; the practice of the latter, if necessary, should be justified as far as it can be, consistently with a conscientious regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in him or affect his reputation. The consulting physician should also carefully refrain from any of those extraordinary attentions or assiduities which are too often practiced by the dishonest for the base purpose of gaining applause or ingratiating themselves into the favor of families and individuals.

Art. V.—*Duties of physicians in cases of interference.*

§ 1. Medicine is a liberal profession and those admitted into its ranks should found their expectations of practice upon the extent of their qualifications, not on intrigue or artifice.

§ 2. A physician, in his intercourse with a patient under the care

of another practitioner, should observe the strictest caution and reserve. No meddling inquiries should be made—no disingenuous hints given relative to the nature and treatment of his disorder; nor any course of conduct pursued that may directly or indirectly tend to diminish the trust reposed in the physician employed.

§ 3. The same circumspection and reserve should be observed when, from motives of business or friendship, a physician is prompted to visit an individual who is under the direction of another practitioner. Indeed such visits should be avoided, except under peculiar circumstances; and when they are made no particular inquiries should be instituted relative to the nature of the disease, or the remedies employed, but the topic of conversation should be as foreign to the case as circumstances will admit.

§ 4. A physician ought not to take charge of or prescribe for a patient who has recently been under the care of another member of the faculty in the same illness, except in cases of sudden emergency or in consultation with the physician previously in attendance, or when the latter has relinquished the case, or been regularly notified that his services are no longer desired. Under such circumstances, no unjust and illiberal insinuations should be thrown out in relation to the conduct or practice previously pursued, which should be justified as far as candor and regard for truth and probity will permit; for it often happens that patients become dissatisfied when they do not experience immediate relief, and as many diseases are naturally protracted, the want of success, in the first stage of treatment, affords no evidence of a lack of professional knowledge and skill.

§ 5. When a physician is called to an urgent case, because the family attendant is not at hand, he ought, unless his assistance in consultation be desired, to resign the care of the patient to the latter, immediately on his arrival.

§ 6. It often happens in cases of sudden illness, or of recent accidents and injuries, owing to the alarm and anxiety of friends, that a number of physicians are simultaneously sent for. Under these circumstances courtesy should assign the patient to the first who arrives, who should select from those present any additional assistance that he may deem necessary. In all such cases, however, the practitioner who officiates should request the family physician, if

there be one, to be called, and, unless his further attendance be requested, should resign the case to the latter on his arrival.

§ 7. When a physician is called to the patient of another practitioner, in consequence of the sickness or absence of the latter, he ought, on the return or recovery of the regular attendant, and, with the consent of the patient, to surrender the case.

[The expression "patient of another praetitioner" is understood to mean a patient who may have been under the charge of another practitioner at the time of the attack of sickness, or departure from home of the latter, or who may have called for his attendance during his absence or sickness, or in any other manner given it to be understood that he regarded the said physician as his regular medical attendant.]

§ 8. A physician, when visiting a sick person in the country, may be desired to see a neighboring patient who is under the regular direction of another physician, in consequence of some sudden change or aggravation of symptoms. Tha conduct to be pursued on such an occasion is to give advice adapted to present circumstances; to interfere no further than is absolutely necessary with the general plan of treatment; to assume no future direction unless it be expressly desired; and, in this last case, to request an immediate consultation with the practitioner previously employed.

§ 9. A wealthy physician should not give advice *gratis* to the affluent; because his doing so is an injury to his professional brethren. The office of a physician can never be supported as an exclusively beneficent one; and it is defrauding in some degree the common funds for its support, when fees are dispensed with which might justly be claimed.

§ 10. When a physician who has been engaged to attend a case of midwifery is absent, and another is sent for, if delivery is accomplished during the attendance of the latter, he is entitled to the fee, but should resign the patient to the practitioner first engaged.

Art. VI.—*Of differences between physicians.*

§ 1. Diversity of opinion and opposition of interest may, in the medical, as in other professions, sometimes occasion controversy, and even contention. Whenever such cases unfortunately occur,

and cannot be immediately terminated, they should be referred to the arbitration of a sufficient number of physicians or a *court medical.*

§ 2. As a peculiar reserve must be maintained by physicians toward the public, in regard to professional matters, and as there exist numerous points in medical ethics and etiquette through which the feelings of medical men may be painfully assailed in their intercourse with each other, and which cannot be understood or appreciated by general society, neither the subject-matter of such differences nor the adjudication of the arbitrators should be made public, as publicity in a case of this nature may be personally injurious to the individuals concerned, and can hardly fail to bring discredit on the faculty.

ART. VII.—*Of pecuniary acknowledgments.*

Some general rules should be adopted by the faculty, in every town or district, relative to *pecuniary acknowledgments* from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

OF THE DUTIES OF THE PROFESSION TO THE PUBLIC AND OF THE PUBLIC TO THE PROFESSION.

ART. I.—*Duties of the profession to the public.*

§ 1. As good citizens it is the duty of physicians to be ever vigilant for the welfare of the community, and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to matters especially appertaining to their profession, as on subjects of medical police, public hygiene and legal medicine. It is their province to enlighten the public in regard to quarantine regulations; the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; in relation to the medical police of towns, as drainage, ventilation, etc.; and in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their duty to face the danger, and to continue their labors for the alleviation of the suffering, even at the jeopardy of their own lives.

§ 2. Medical men should also be always ready, when called on by the legally constituted authorities, to enlighten coroners' inquests and courts of justice on subjects strictly medical—such as involve questions relating to sanity, legitimacy, murder by poisons or other violent means, and in regard to the various other subjects embraced

in the science of Medical Jurisprudence. But in these cases, and especially where they are required to make a *post-mortem* examination, it is just, in consequence of the time, labor and skill required, and the responsibility and risk they incur, that the public should award them a proper honorarium.

§ 3. There is no profession by the members of which eleemosynary services are more liberally dispensed than the medical, but justice requires that some limits should be placed to the performance of such good offices. Poverty, professional brotherhood, and certain of the public duties referred to in the first section of this article, should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public or by rich individuals, societies for mutual benefit, for the insurance of lives or for analogous purposes, nor any profession or occupation, can be admitted to possess such privilege. Nor can it be justly expected of physicians to furnish certificates of inability to serve on juries, to perform militia duty, or to testify to the state of health of persons wishing to insure their lives, obtain pensions, or the like, without pecuniary acknowledgment. But to individuals in indigent circumstances, such professional services should always be cheerfully and freely accorded.

§ 4. It is the duty of physicians, who are frequent witnesses of the enormities committed by quackery, and the injury to health, and even destruction of life caused by the use of quack medicines, to enlighten the public on these subjects, to expose the injuries sustained by the unwary from the devices and pretensions of artful empirics and impostors. Physicians ought to use all the influence which they may possess, as professors in Colleges of Pharmacy, and by exercising their option in regard to the shops to which their prescriptions shall be sent, to discourage druggists and apothecaries from vending quack or secret medicines, or from being in any way engaged in their manufacture and sale.

Art. II.—*Obligations of the public to physicians.*

§ 1. The benefits accruing to the public, directly and indirectly, from the active and unwearied beneficence of the profession, are so numerous and important, that physicians are justly entitled to the utmost consideration and respect from the community. The public ought likewise to entertain a just appreciation of medical qualifications; to make a proper discrimination between true science and the assumptions of ignorance and empiricism; to afford every encouragement and facility for the acquisition of medical education—and no longer to allow the statute-books to exhibit the anomaly of exacting knowledge from physicians, under a liability to heavy penalties, and of making them obnoxious to punishment for resorting to the only means of obtaining it.

THE

CARE OF

THE EYES AND EARS.

BY

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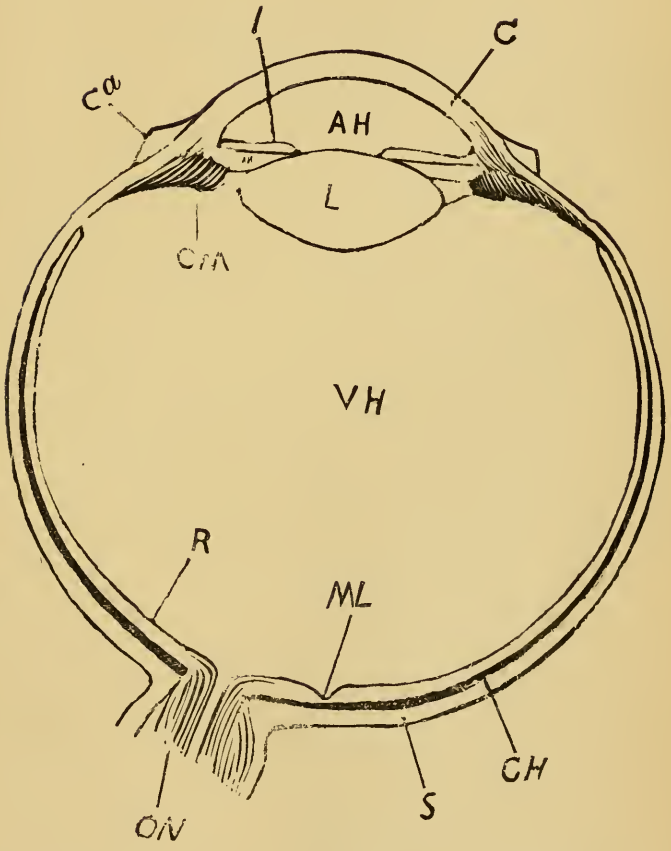
WILMINGTON, N. C.:
PUBLISHED BY THE NORTH CAROLINA BOARD OF HEALTH.
1886.

DIAGRAM OF THE EYE IN HORIZONTAL SECTION.



S, sclerotic coat; CH, choroid coat; R, retina, or nervous coat, continuous with ON, the optic nerve; ML, Macula lutea, or yellow spot, the centre of retina; VH, vitreous humor; L, lens; AH, aqueous humor; I, iris; CM, ciliary muscle; C, cornea; Ca, conjunctiva.

PREFACE.

The object of this article, prepared at the request of the State Board of Health, is to assist, as far as may be, in preserving in a condition of health and usefulness the most important of the senses.

Eyesight stands easily first in the estimation of all, and Hearing is only second to it. Blindness being one of the most frequent causes of pauperism, it becomes still more the duty of the guardians of the public health to present to the people such information as may help to prevent its occurrence than a regard simply for the happiness and prosperity of the individual would require. But there are so many instances of damage to, and loss of, one or the other of these precious senses when they might have been saved by the knowledge of a few simple facts, that there is no need to mention the relief of the community of a pecuniary burden to show the necessity for such a publication.

This, then, being intended for those not at all versed in medicine, must be as free as possible from the technicalities in which the professional man is accustomed to think, and at the same time as brief as possible in order to come, together with other necessary publications, within the resources of the Board for printing. The difficulties of the task are greatly increased by these conditions, but it shall be my endeavor to be as plain and simple as possible, and at the same time as concise as a regard for clearness will permit. I trust the kind reader will bear these facts in mind.

217 N. Wilmington St.,
Raleigh, N. C., May 12, 1886.

THE CARE OF THE EYES.

In order to understand and appreciate instructions as to the proper method of caring for any organ, it is absolutely necessary to have some idea of the nature of that organ. We must therefore, before going farther, study for a few minutes the structure of the eye. Reference to the diagram in front will assist greatly in understanding what follows.

The eye is a nearly round ball about seven-eighths of an inch in diameter. The walls of the posterior five-sixths of this globe are made up of three thin coats, lying one immediately upon the other like the layers of an onion. The interior of this part is filled with a rather thick, viscid, but perfectly transparent fluid called the vitreous humor. The outermost of these three coats or layers is a dense opaque membrane named the *sclerotic*, fibrous in structure, something like the tendons or "leaders," and therefore very strong and tough. Its purpose is to preserve the shape of the ball and to protect the more delicate structures within. This constitutes "the white of the eye." Next to that is the middle coat, or *choroid*, which is composed of a network of blood-vessels, in the meshes of which is deposited a kind of dark pigment or coloring-matter, the object of which is to prevent dazzling from bright light. The eyes of albinos are very sensitive to light, owing to the absence of this coloring-matter in this coat as well as in the hair. At its front border this coat is thickened by the addition of another element, the ciliary muscle, or muscle of accommodation—a structure of great interest and importance to us. Interior to this is the third and innermost layer, called the *retina*. It may for our purposes be considered an expansion of the optic nerve, which, coming from the brain, perforates the first two coats and then spreads out into this nervous layer, "like the cup of a tulip on its stem." This is the sensitive plate on which the pictures of all objects seen are taken.

The front of the eyeball is quite different from that portion we have been considering. The first thing we notice is a perfectly transparent structure (the remaining one-sixth of the whole ball), which appears

to be part of a smaller globe, and which seems to be set in the white of the eye like a watch-crystal in its rim. This is the *cornea*. Just back of that we observe a very beautiful curtain, which, on account of its infinite variety of colors in different individuals, is called the *iris*—that word meaning a rainbow. Near the centre of this curtain is a round black spot which is often referred to in common language as "the sight of the eye." This is merely a window or opening in the curtain, the *pupil*, through which light enters the eye and out of which we see. This window partially opens and shuts automatically in order to regulate the amount of light. The space between the iris and the transparent cornea is filled with a watery fluid, the *aqueous humor*. Immediately behind the iris, suspended in a little sac, is the *crystalline lens*. It is convex or bulging, both in front and behind, and its function is to make pictures on the retina of all objects before the eye.

Covering all of the white of the eye that can be seen, and leaping from that over to the lids and lining their under surfaces, becoming continuous with the skin at their edges, is an exceedingly thin, transparent mucous membrane called the *conjunctiva*. It is this membrane which is involved in ordinary simple inflammations of the eye. It is lubricated by tears manufactured for the purpose by the lachrymal gland at the upper and outer corner, the surplus being carried off by two little gutters in the inner ends of the two lids which open into a larger drain emptying into the nose. Each eye is moved in different directions by six little muscles, but the only ones of special interest to us are the two inner straight muscles, that are attached one to the outside of each eye next the nose, which converge the two eyes upon near objects.

For the sake of clearness we will make two general divisions of our subject, and consider the eye first in its relation to weak sight; and secondly in its relation to blindness, although they will overlap one another at certain points.

Weak Sight.

Weak sight is that condition of affairs in which, while there is no evidence of disease, the eyes are nevertheless unequal to the performance of their legitimate work. The acuteness of sight for ordinary distant objects is sometimes below the standard, and sometimes not, but, whether it be or not, any continuous effort at *near* work, as reading, writing, sewing, etc., is impossible, and always brings on a certain characteristic group of symptoms. First, a heavy, tired feeling in and around the eyes is observed, and then the letters or stitches become

indistinct. After a rest of a minute or two, they can be again seen plainly, only to become blurred even more and in a shorter time than before. A repetition of these attempts causes pain and watering of the eyes with redness of the balls and edges of the lids, often headache, and, in some cases, a disturbance of the general health, more especially the nervous functions. If attended to promptly, it can nearly always be easily relieved; but if it be neglected and nothing done for it, perseverance in near work is liable to cause such sensitiveness and irritability of the eyes as to render them not only practically useless, but a constant source of annoyance and discomfort in the ordinary lights we must daily encounter. It is exceedingly common (and through heredity becoming more so every day), and, while not productive of blindness, interferes seriously with the practical use of the eyes, as we have just said. It is, moreover, very often met with in the young during school-life, when it prevents their studying with ease and comfort, if they can at all, and by so doing obstructs the formation of the *habit* of study, which in the average boy demands every encouragement, thereby affecting injuriously the character, probably for life. Such being the case, and the remedy for these troubles being very simple and easily applied when once they are recognized and their true nature appreciated, the Board of Health regards it as of prime importance that the public should be put in a position to recognize and appreciate them.

Advice to intelligent people is much more apt to be taken if accompanied by the reasons for it, and they are, besides, much more likely to be interested in a subject if it can be explained and made clear than they would be in a mere didactic statement of bald, unillustrated facts. Therefore, as interest in these important matters on the part of the people is what the Board is especially anxious to create, I shall endeavor to elucidate the subject in as simple a manner as possible.

Weak sight—asthenopia, as it is technically called—is sometimes due to a weak and irritable condition of the nervous apparatus of the eye pure and simple; and this form occurs most frequently in young women, who are peculiarly prone to functional nervous disturbances. But in a vast majority of instances it is caused by an *overstrain of the muscles* of the eye, either those which adjust each eye for objects at different distances, or those which turn both eyes in upon near objects. This overstrain may be, and sometimes is, due to simple weakness of these muscles, as often occurs during convalescence from severe attacks of illness, in which cases it is only temporary; but it is nearly always a consequence of the faulty shape of the ball, causing certain optical defects or errors in refraction, as they are usually called.

In order to understand these optical defects it is necessary to first understand what is a correct eye, and how we see with it. The knowledge of a few facts in regard to the nature of a convex lens will render this easy.

A convex lens is a body of some transparent material, usually glass as we see it, flattened from side to side, thicker in the middle than at the edges, with its faces having the curvature of part of a sphere or round ball. A familiar example is an ordinary magnifying- or sun-glass. Its peculiar property is that rays of light emanating from any object, after passing through it, are brought together again in the same relation to one another as they started from the object, and a picture or image of it is thereby produced. The point at which this union is effected is called the *focus* of the lens. The *more convex* the lens, the stronger it is and the *shorter* is its focus. The action of a convex lens can be interestingly illustrated in this way: Having closed all the doors and windows of the room except one in order to shut off the side lights, take a magnifying-glass—or, if not convenient, the spectacles of the oldest person in the house, they being convex lenses—and, holding it immediately opposite the window about three feet from the wall, gradually approach it thereto, and you will presently see come out on the wall a distinct picture, turned upside down, of the sky, trees, and other objects outside.

If you will turn to the diagram of the eye, you will recall that the lens is situated immediately behind the iris and opposite the pupil, and that the sensitive retina is the coat nearest to it, being the innermost of the three. Now, as the convex lens of glass held opposite the window of the darkened room makes a picture of outside objects on the wall, just so does the convex lens in the dark chamber of the eye placed opposite the only window, the pupil, make a picture of outside objects on the retina, which in the normal eye is exactly at its focus. The impression thus made upon the retina is transmitted to the brain by the optic nerve, and the act of vision is complete.

In what has been said about rays of light reference has been had only to rays from *distant* objects, which are always practically parallel to one another. It is an optical fact that rays emanating from objects nearer than twenty feet sensibly diverge from one another, and that the nearer the object the more divergent they are. A lens having only so much power to concentrate light, it is evident that divergent rays cannot be brought to a focus as soon as parallel; in other words, that their focus must be farther from the lens. This being true, how is it that we see near objects distinctly, as the retina cannot be set back to this new

focus? By an increase in the thickness or convexity of the lens, which, as you remember, *shortens* the focus. This is what is called the accommodation of the eye, and it is effected in the following manner: The inherent tendency of the lens-substance, which is exceedingly elastic, is to assume a more globular form, but, enclosed in a sac, it is suspended or swung in the larger concentric circle made by the ciliary muscle by means of a connecting band (see diagram), and as long as the muscle is at rest the sac is kept upon the stretch and the lens more or less flattened. As soon, however, as the muscle contracts, being a ring, it must become smaller, and in so doing necessarily slacks the sac, thereby allowing the lens to follow its natural bent and bulge more in the middle. This is clearly shown in Fig. 1, where one half represents

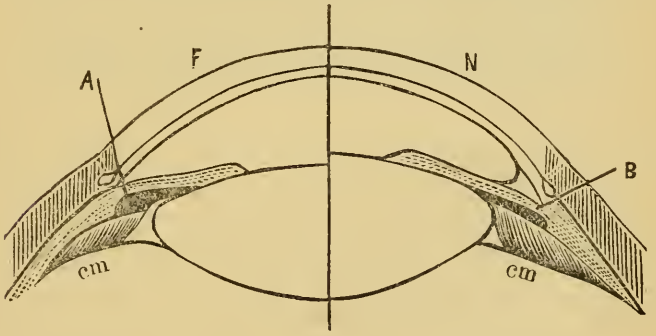


Fig. 1.

the position of the parts when the eye is at rest or adjusted for distance, and the other half when the muscle has contracted and it is adjusted for near objects. It will be observed that the edge of the lens is nearer to the muscle in the latter, and that therefore the suspensory ligament or band must be slacked.

In this way each separate eye is accommodated for different distances, but, as we always use the two eyes together, the adjustment is not complete unless they are both fixed upon the object. This convergence is made by the inner straight muscles attached to the sides of the balls next the nose, and the nearer the object of course the more must the eyes be turned in.

Thus we see that the adjustment of the eyes for near objects is accomplished by a *muscular effort* on the part of two sets of muscles, and that the *nearer* the object the *greater* the effort required of both, so that there is always a harmony of action between the two. If you will look steadily at a pencil or your finger held less than six inches

from the eyes, you will be distinctly conscious of this effort, which if kept up becomes painful; but at the ordinary distance of ten or twelve inches it is not perceptible in eyes of the proper shape. But variations from this proper shape are exceedingly frequent, and, as said before, defects in form are nearly always at the bottom of weak sight. They are of three kinds. In Fig. 2 the line X Y represents the retina in a

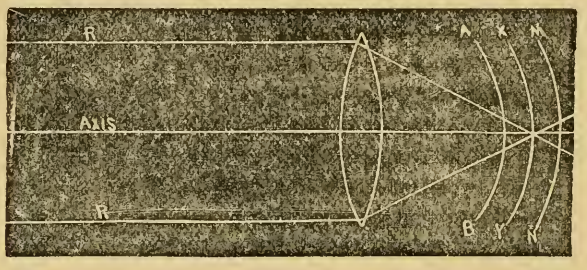


FIG. 2.

normal eye at the proper distance from the lens, but the eye may be too short, with the retina too close to the lens, A B, causing *over-sight* or *far-sight*; or it may be too long, with the retina too far from the lens, M N, causing *near-sight* or *myopia;* or the clear front, the cornea, may be irregular in its curvature, producing what, for want of a common name, will have to be called by the technical term of *astigmatism.* An easy way to remember these errors is to bear in mind that the short eye has long sight, and the long eye short sight, while the astigmatic eye does not have good sight at any distance.

Over-sight or *Far-sight* is by long odds the most common of these optical defects, certainly in this country, and it is therefore the most frequent cause of weak sight. But how does it cause weak sight? you will ask. By adding to the strain upon the accommodation. In the normal eye, the retina being exactly at the focus of parallel rays (X Y, Fig. 2), no effort whatever is required for distant vision, and the accommodation for near objects can be made without trouble; but in the short eye (A B) the focus must be shortened even for distance, and consequently just that much work must be added to what is usually required of the little muscle; and that is too much for it, so it breaks down, and we have precisely what we would expect from muscular fatigue—viz. the sense of weariness and heaviness about the eyes, the recurring dimness of the letters, the aching, and other symptoms characteristic of weak sight. Therefore, upon the occurrence of these symptoms we would suspect the presence of over-sight, especially if

distant vision were perfect (which would exclude near-sight and astigmatism), although it is not perfect in the highest degrees of over-sight itself, because in them the ball is so very short that it is beyond the power of the muscle to bring up the focus of even parallel rays to the retina. Such cases, however, are comparatively rare. Another effect of this over-sight is that the harmony of action between the two sets of muscles used in adjusting the eyes, accommodation and convergence, is destroyed, and as a result we frequently have crossed eyes, this being the cause in over 75 per cent. of such cases.

The remedy is simple and—if applied early before the eyes become chronically irritable—sure. Everything necessary to be done is to shorten the focus of the lens in proportion to the shortness of the eye, so as to do away with all extra effort—that is, all effort for distance—and put the eye on an equality with the normal eye. This is easily done by adding on another convex lens of the proper strength in the shape of spectacles.

Near-sight or Myopia is a subject of peculiar interest to the custodians of the public health. It is just the opposite, optically, of far-sight or over-sight, and, while the conditions causing the latter are always congenital, in near-sight they originate, as a large number of investigations show conclusively, between the ages of six and sixteen, or during school-life—rarely before and rarely after that period.* Heredity exerts a powerful influence in its production, a considerable proportion of the children of one near-sighted parent being apt to develop it, but it is very often acquired when there is no predisposition to it. When once established it is incurable. *It can to a large extent be prevented by proper care* on the part of parents and teachers during the period named. I shall therefore, as the representative of the Board of Health in this matter, endeavor to set forth clearly the true cha-

* It appears from the German statistics that the percentage of myopia, beginning with less than one half of 1 per cent. during the first half year of school-life, increased gradually from year to year to over 60 per cent. on an average in the highest class, in one instance going as high as 79 per cent. The Germans, however, are a peculiarly near-sighted race, and in this country the percentage of short-sight is only about half as great. An interesting result of the American observations is the fact that myopia is very rare among the negroes; all of which demonstrates in a general way the influence of literary culture and of heredity in the causation of this trouble. The investigations further show that the development of near-sightedness is in a direct ratio to the prevalence of the unfavorable conditions referred to in the text, and that it increases in degree, after it has once started, from year to year.

racter of the affection, with the means of its prevention, in order to save our people as far as possible from becoming any more "bespectacled" than is absolutely necessary.

As mentioned above, near-sight is due to an elongation of the eyeball displacing the retina backward, so that parallel rays come to a focus in front of it, and only divergent rays—from near objects—come to a focus exactly on it, and they only, therefore, can be distinctly seen; so that the causes of short-sight are to be found in everything that has a tendency to increase the length of the ball.

Merely mentioning the fact that anything injurious to the general health, by weakening the resisting power of the tissues of the eye in common with those of the rest of the body, assists in producing this elongation, and calling attention especially to the execrable ventilation of many school-rooms as a most active agency in this category, I will point you particularly to those causes acting directly through the eye itself.

It is now regarded as an established fact that the continued tension of the muscles of adjustment (accommodation and convergence) is the principal factor in the production of near-sight; and, it having been explained above that the nearer the object to the eyes the greater the tension or strain upon both these sets of muscles, it follows that everything having a tendency to cause the undue approximation of objects on which the eyes are continuously used during childhood assists in the origination of this condition. I say "in childhood," because, as we have seen, it nearly always begins during that period; and it does so for the reason that the tissues of all growing and immature animals are more soft and yielding than when they have attained the firmness of maturity—another reason for special attention to their general health at this time.

Since a large part of childhood, and particularly that part of it in which the eyes are used most on near objects, is passed in the school-room, it is there that we would naturally seek the causes of this trouble. And it is there that they are generally found. School-children are often compelled to hold their books too near—that is, nearer than ten inches—because the amount of light is insufficient. This question of plenty of light of good quality (the best is direct from a northern sky) in the school-room is of the highest importance, and cannot be impressed too deeply upon those having such matters in charge. In a general way, it may be said that there should always be enough light to enable a child to read on a moderately clear day fine print in the darkest corner of the room at the distance of a foot. And the direc-

tion from which it comes is also important. Preferably, it should come from the left and above, so that, while illuminating the page, it may not fall upon the eyes nor cast a shadow of the hand in writing. The next best direction is from behind, then from the right, but never from in front. The children should always look at a dead wall. I append an admirable statement of the "Requirements of the Model School-room,"* copied in the *Sanitarian* for October, 1885, from *City School Systems of the United States*, and earnestly commend it to all school boards and others having in charge the building of school-houses. It

* "REQUIREMENTS OF THE MODEL SCHOOL-ROOM.

"(1) *Shape.*—It should be oblong, the width being to the length about as three to four, with the teacher's platform at one end.

"(2) *Size.*—For primary or grammar school, with register of 54 pupils and attendance of about 50, the room should be about 33 feet long, 25 wide, and 13 high, which gives practically upward of 200 cubic feet of air and 16½ square feet of floor space to each pupil.

"(3) *Lighting.*—Four windows on the left of the pupils as they sit, the tops being square and not more than six inches from the ceiling, the bottoms being at least three and a half feet from the floor, equally spaced, not grouped, with transom sashes hung at the base above the sliding sashes. A window or two in addition at the back is admissible. The size of the windows on the side, taken collectively, should equal at least one-sixth of the floor-space. The highest authorities in school hygiene require 300 or 350 square inches of glass for each pupil.

"(4) On the side opposite the windows two doors, with transom windows above hung at the base, and between these transom windows, and on the same line, two more windows of the same kind and hung in the same manner.

"(5) The wall should be slightly tinted, but not the ceiling.

"(6) A black board may be between the doors, but a sliding black-board back of the teacher's platform, or a portable one on the platform, in accordance with the German idea, would perhaps be better than the profusion of wall black-board now in vogue among us.

"(7) *Location of Seats.*—The main rule to be observed in the placing of the seats is to carry them as far as possible toward the window side of the room, and as far as possible from the opposite side; the aim being to make the arrangement such that the distance of the outer row of desks from the windows shall not exceed once and a half the height of the top window from the floor."

Proper height of seats and desks for different ages, as approved by the Boards of Health of New York and Chicago:

From	7 to 9	years,	top of desk	23	inches,	front of seat		12¼	inches.	
"	9 to 11	"	"	"	24	"	"	"	12¾	"
"	12 to 14	"	"	"	25¾	"	"	"	14	"
"	15 to 18	"	"	"	27½	"	"	"	15¼	"

need not be more expensive than the ordinary plan, except in the matter of windows; and I am sure no one will grudge the children under his care in this respect the very slight additional cost necessary to supply them with light enough for the comfortable and *safe* use of their eyes.

The light being sufficient, the print may be bad or too small, though this danger has now been largely eliminated by the spread of knowledge on this subject and the active competition of publishers.

Sometimes the proportion between the height of the seat and that of the desk is such as to bring the book too near, as a low seat with a high desk.

Occasionally the seat has no back, so that from sheer fatigue the child is constrained to lean forward on the desk to rest himself.

Any of these things may cause this dangerous approximation, and not infrequently it is made more hurtful by a system of instruction which requires it to be kept up continuously for hours at a time.

The approximation of the book to too near a point is dangerous, because, as we have seen, it necessitates a strain upon the muscles of adjustment. That strain excites an increased flow of blood to the eyes to furnish the power for the extra work. The increased amount of blood causes dilatation of the blood-vessels and congestion, which conduces to the softening and degeneration of the coats, especially of the outer, tough, white coat, whose peculiar function is to preserve the shape of the ball. At the same time it has a tendency to augment the volume of the humors within the eye. This increase in the humors adds to the pressure from within outward, causing the softened coats to give way or bulge slightly at their weakest point, which is at the back, around the entrance of the optic nerve. But the principal factor, probably, in the production of the bulging is the squeezing of the ball by the muscles which move it, as they are put greatly upon the stretch when the eyes are turned in much. The walls, having once begun to give way, become thinner and less able to resist, and, the same causes continuing to act, the near-sight is apt to increase. If the bulging extend beyond a certain point, the two inner and more delicate coats become very much damaged, and sometimes destroyed, by the excessive stretching. Occasionally the retina, unable to follow farther, is detached from the coat lying under it, and then total destruction of sight is only a matter of time. So that short-sight is nearly always accompanied by a *diseased condition*, often progressive in character, that may, and not infrequently does, end in blindness, making our duty to give warning of its dangers the more imperative.

It is the duty of the teacher to see to it that the faulty conditions as to light, etc. above indicated are corrected. so far as lies in his power. He should, besides, make it a point to frequently interrupt the studies by various appropriate exercises (now common in well-managed schools) which will permit a rest of the eyes, and by frequent recesses. Parents also should exercise supervision in these matters at home, and in addition to carrying out the instructions given under the head of "General Directions," they should forbid too much study and reading, especially if their children be precocious and disposed to be bookish, and encourage them to outdoor life. This is often the more urgent because such children are apt to be feeble and delicate in constitution.

Owing to the presence of disease in so many near-sighted eyes, they are very often sensitive, irritable, and painful. The ordinary symptoms of weak-sight too are frequently complained of, even when the morbid changes are not very marked, they being due to the overstrain of the muscles of convergence, caused by the necessity of holding the book too near in order to make out the letters.

Attention to the presence of this defect will most likely be called by the child's inability to read figures on the black-board or in some similar way. Either a *high* degree of over-sight or the irregular error, astigmatism, may cause this as well as short-sight, but the difference between them and the true myopia is that in the last the sight for objects held near enough is generally unusually acute, while in the first two it is apt to be more or less proportionally bad at all distances.

When once the fact becomes known, the eyes should be scrupulously guarded, and upon any complaint (or without waiting for it if the child seems to be very near-sighted) the advice of a competent physician should be promptly sought, so that he may give fully and explicitly the proper directions for the treatment and care of the eyes, including, if the state of the case warrant them, the proper concave glasses. Concave glasses, being the reverse of convex, lengthen the focus to suit the (short-sighted) long eye. It is of peculiar importance that accurately-adjusted glasses should be worn in these cases, because they not only permit the removal of the book to a safe distance, thereby assisting greatly in checking the progress of the affection, but they also enable the child to imbibe unconsciously a vast amount of knowledge that would otherwise escape him. At the same time, being in a position to see and enjoy the world around him, he would be encouraged to use them on distant objects and get away from his books.

Astigmatism.—The explanation of this error is apt to be so confusing to any one not quite familiar with optics that I shall not weary

you, but will merely mention certain characteristic facts. The astigmatic person sees neither distant nor near objects distinctly, but he has the peculiarity of seeing lines running in one direction more clearly than others at right angles to them, and these lines are usually vertical and horizontal. He is apt to complain of all the symptoms of weak sight, probably in an exaggerated form, with an unusual amount of headache, and sometimes other nervous symptoms. Glasses accurately calculated, and made (as they must be) for the particular individual, render the sight acute, and are often of unspeakable comfort.

Old Sight cannot be considered, strictly speaking, as an optical defect, but it is merely one of the changes which come to us all with age. The lens of the eye becomes stiff and hard, less elastic than in our younger days, and consequently when the muscle of accommodation, which has also lost some of its vigor, slacks the sac holding it, it does not assume the convexity necessary for distinct vision of near objects. At the same time, distant vision remains as good as ever, because, as you remember, no adjustment is needed in the normal eye for distance. It usually makes its appearance between forty and fifty years of age. The first symptom is a disposition to hold the book or paper rather farther off or to seek a better light, especially at night. After a little the symptoms of weak sight come on, and for the same reason that they usually appear—viz. overstrain of the muscle, though this time it is not due to the shape of the ball, but the consistence of the lens. The remedy is found in convex glasses, which by shortening the focus assist the accommodation and relieve the strain. It is very important to put on glasses as soon as needed, to avoid this strain, not only as a matter of comfort, but because the overstraining of old eyes is thought to be one of the causes of a most serious and fatal disease of the eye.

Recapitulation.

In the preceding pages an attempt has been made to set forth, as simply and clearly as possible, certain facts of general interest and importance in regard to the eye, especially those bearing upon the exceedingly common and troublesome group of symptoms included under the general term "weak sight," and upon the nature and dangers of near-sight. The subject has been dwelt upon—to the point of tediousness, some will feel, I fear—because, while of very frequent occurrence, and when present very annoying, even to the extent of rendering the eyes practically useless, the nature of weak sight is not at all understood by most people, nor are they aware that it can in most cases be completely relieved by a very simple remedy. Neither

is it generally known that near-sight, often the result of preventable causes, is frequently associated with disease that may prove fatal to vision, and that special care is therefore required in its management. On the contrary, the popular opinion is that near-sighted eyes are strong eyes.

It has been shown that in the normal eye objects are seen by the formation of images or pictures of them through the instrumentality of the lens on the sensitive retina; that distant objects are seen clearly without effort, while near objects are made distinct, by a muscular effort, it is true—the accommodation—but one that can be made and kept up without fatigue; and that the two eyes are held upon near objects comfortably by the muscles of convergence. It has also been explained how certain departures from the normal in the shape of the eyeball will bring about an overstrain of one or both of these sets of muscles, causing weak sight, Attention was called to the short eye, causing over-sight or long-sight, as by odds the most frequent cause of weak sight, though certain nervous conditions, weakness of the muscles from sickness, and strain of the muscles of convergence in short-sight, were mentioned as being sometimes responsible for it. It has been further made plain that near-sight, or myopia, is the result of an elongation backward of the globe; that it nearly always originates during school-life or between the ages of six and sixteen; that it is often progressive in character, and is then associated with diseased conditions which may lead to total loss of sight; that its cause is too great tension or strain of the muscles of adjustment, resulting from too much study or from unfavorable surroundings, necessitating an overstrain by requiring too near an approximation of the object; and, finally, that it is largely preventable by proper care.

General Directions.

The directions for the proper use of the eyes follow, almost as a matter of course, from what has been said.

Always have plenty of light. Economy in light is very poor economy. Many of the most intractable forms of weak sight I have seen have resulted from the use of the eyes by a bad and insufficient light. Any good, white, steady light will answer, provided it is *bright* enough. The German student's lamp, looked at from every point of view, expense included, is probably the best light, but any good lamp with a large wick, that is kept clean and well-trimmed and filled with good oil, will do very well. Avoid flickering gas-jets. If you prefer gas, see that the flame is steadied by an argand burner or a transparent globe with

a large opening below. The light should come from behind and the left, so as to illuminate the page and not the eyes. Nothing is more irritating than a number of lights falling upon the eyes from different directions, as the jets in a church or public hall, and those with sensitive eyes should never attend such places at night without the protection either of dark glasses or a shade.

Never read by twilight. I have in mind now a young lady of prominence who, for one imprudence in this respect, forfeited the use of her eyes for months, not to mention the positive suffering she endured.

Do not read lying down. Owing to the position, the eyes are more than usually full of blood, and the muscles are unduly strained because of the practical impossibility of holding the book squarely before the eyes. For a similar reason, do not employ the eyes in a stooping position; it obstructs the return flow of blood from the head and eyes. "Carry the book to your eyes, and not your eyes to the book."

Eschew the pleasures of book or newspaper while riding, unless the vehicle be very steady. The work of adjustment is greatly increased by the shaking of the letters; the eye has "to take them on the fly," as it were, and it is very fatiguing. It should never be done, even on the smoothest railway, if the eyes are not perfectly strong.

Never sew on black at night. Black absorbs so much light that no ordinary artificial source can afford enough for its proper illumination.

Whenever the eyes become tired and uncomfortable stop work and rest them a while. If you persist in using them after the warning, you will be apt to suffer for it. If the fatigue and discomfort be so marked as to amount to weak sight, seek advice from some competent physician, who will nearly always put you in the way of obtaining permanent relief.

If old enough to wear specs, put them on as soon as you feel the need of them; which is to say when you catch yourself holding your book farther off in the day and abusing the lamp and the print at night.

Plenty of sleep is important. When the eyes are weak, it is a necessity. Should you have children, observe them while using their eyes, and if they hold the book too near or if they complain of them, examine into the matter carefully. By following the directions given at the end of this discourse, you can form some idea of the trouble yourself, though only the skilled physician can relieve it. Being ambitious and studious, do not urge them to still greater tasks for the

gratification of your own pride, and run the risk of irreparably damaging their eyes or ruining their health for life; but judiciously curb their enthusiasm, impressing upon them the important truth that the sound body is as necessary as the cultivated mind. I have been shocked at the folly sometimes exhibited by parents in this respect.

Glasses.

Glasses for the young, owing to the peculiar character or the serious nature of the defects occurring among them, should always be selected by some one thoroughly familiar with the subject. Says a well-known writer: "The selection of glasses for short-sight requires great care, as much harm may be done by using those that are too strong or that are not properly fitted to the eye. In many cases the plan of 'trying' the various glasses on the optician's counter—or, far worse, in the peddler's box—is about as rational and safe as it would be, in case of sickness, to *try* the contents of the various bottles on the druggist's shelf without a prescription." But in old sight it is not so serious a matter, and at the end I append a simple rule for the selection of such glasses that may prove a help to some of my readers.

Spectacles are, as a rule, better than eye-glasses, because the lenses are kept in the right position more easily, though the latter are often very handy, especially when the specs become mislaid, as they frequently do when not worn constantly. In such cases, if expense be not an item, it is very convenient to have both. The frames are a matter of taste only, provided they fit the face properly, so as to put the centre of each lens opposite each pupil and the right distance from the eye. Steel frames are most generally worn, but for constant use in summer some non-corrosive material is better, and even gold is more economical in the long run.

All glasses are equally good, provided they are equally homogeneous and transparent, the only difference between them being in the curvature of their surfaces. "Pebbles," while much more costly, have no special virtues over glass, other than greater hardness, and consequent less liability to scratch, and a little less weight in the higher numbers. Quite often they are much inferior to glass, because, being cut from a natural and peculiar product, fluor-spar, they must be made with great care or they are much worse than glass, and that care is not always bestowed on them. Be not deceived by the oily-tongued venders of spectacles travelling through the country. The truth is not in them, and they usually charge from two to ten prices. If you are so unfortunate as to need glasses, and feel equal to selecting them for yourself,

buy them from some optician or jeweller in your nearest town whom you *know* to be a man of character.

From $1.50 to $2.50 is ample for the best glasses in good steel frames, and from $5 to $10 in gold, unless the lenses be of the peculiar kind required in astigmatism or a combination of different sorts.

Blindness.

In considering the care of the eyes in its relation to blindness, we must deal with the diseases and injuries to which they are liable. For a thorough exposition of the subject volumes would be required, such has been the progress in this branch of medicine; but of course in a publication of this kind it is only intended to call attention to certain facts in connection with them that ought to be in the possession of everybody, as a general knowledge of them would annually save this most precious of the senses to very many.

Having already, in the first division of our subject, dwelt upon the diseased conditions associated with near-sight which sometimes cause the loss of vision, no further allusion will be made to them.

By long odds, the most frequent of the diseases practically interesting to us is an inflammation of the delicate membrane covering the front of the ball and lining the under surfaces of the lids, called the *conjunctiva*. There are many varieties of this, but the symptoms common to all of them are redness of the eyes with more or less swelling of the lids and a discharge of mucus or matter. The severity of these symptoms is an index of the gravity of the attack. The discharge is *highly contagious*, and, as the matter from a mild case may excite an attack of dangerous severity in another, the most scrupulous cleanliness should be observed, and no one should be permitted to use the same washbowl or towels as the patient.

A familiar illustration of this class of diseases is the common "sore eyes" which goes through the country every few years, and which, it may interest you to know, is technically known as catarrhal conjunctivitis or catarrhal ophthalmia. It is generally of a mild type, with a tendency to recovery, and is, for the most part, treated without the aid of a physician, and usually with success. But just here I must sound a note of warning against the use of any preparation of *lead*. I mention this, because if the clear "watch crystal" becomes ulcerated, as it sometimes and not very infrequently does in this disease, the lead becomes deposited on the rough surface of the ulcer in the form of its insoluble carbonate, or white paint. It sticks so closely that it cannot be satisfactorily removed without damaging the eye, and is occasionally

the cause of its total loss. I have seen a number of such cases. A popular old remedy known as "Thompson's eye-water" is said to be one of these lead preparations, and should never on that account be used, as it cannot be predicted when these ulcerations may occur. Any simple astringent, as alum-water, a teaspoonful to a pint, or borax-water, twice as strong, a few drops in the eyes three or four times a day, or simply bathing the closed eyes for fifteen or twenty minutes at a time several times a day with water as hot as can be borne, will answer; but if the eyes become decidedly painful and sensitive to light, and especially if the transparent part appear smoky or rough, seek your physician immediately, as the eye is in danger and more careful treatment is necessary.

The gravest of this class is the inflammation which comes on during the first week of life, usually in the first three or four days after birth. It is the most frequent cause of hopeless blindness, *30 per cent.* of the inmates of the blind asylums of Great Britain having lost their sight from it, and in the United States *32 per cent.* of those blind from preventable disease tracing to it. And the pity is the greater because it is very amenable to proper treatment, and this fearful loss of sight must therefore be largely attributed to either ignorance or neglect. It can be easily recognized by the symptoms common to the class mentioned in the beginning—viz. redness and swelling of the lids, with a *discharge of matter*, occurring shortly after birth. In view of its dangerous and, in bad cases, rapidly destructive character (twenty-four to forty-eight hours sometimes sufficing to compass the loss of the sight), no time should be lost in trying breast-milk, rotten apple, tea-leaves, alum curd, or other infallible remedies of the monthly nurse, but the physician should be called *at once*. But do not sit idly by doing nothing until he comes, for good doctors are apt to be busy men, and it may be several hours or longer before he can get round, especially if it be in the country, and the child's sight may be lost in that time. The first thing to do, if only one eye be affected, is to try to prevent the infection of the good one by matter from the first, and the simplest method of doing this is to seal up the good one. Put a piece of soft clean cotton over it, and cover the whole with sticking-plaster, special care being taken to see that it is securely glued down on the dangerous side. For the same reason the child should, as far as possible, lie on the affected side and the hands should be secured. But both eyes are nearly always involved from the beginning. As cleanliness is the most important part of the treatment, set to work to cleanse, and *keep* the eyes clean, repeating the washing as often as every half hour if necessary.

Separating with the thumb and forefinger of the left hand the lids of the lower eye (the child lying on his side), let a stream of the borax- or alum-water, mentioned above, from a sponge or cloth saturated with it run between them upon a folded towel previously placed under that side of the head, and repeat until the matter is all washed out. After the doctor comes attend carefully to his directions, and *carry them out to the letter day and night*, for in the bad cases of this disease eternal vigilance is the price of sight.

In all those eye troubles characterized by a dread of light, watering of the eyes, particularly on exposure, and pain, especially if it extend to the brow, temple, side of nose, and perhaps run up into the head, very important structures are almost surely involved and medical aid should be obtained without delay. Irreparable damage may result from waiting only a few days.

Elderly persons who observe rings or rainbows around the lamp, and who suffer from occasional attacks of dimness of sight, are threatened with a disease known to oculists as *glaucoma*. Should the dimness persist for twenty-four hours, especially if accompanied by pain in the eye or head, let not another day pass without obtaining skilled advice. The results of *prompt* treatment are among the most brilliant in surgery; absolute and hopeless blindness, often accompanied by great pain, is the consequence of neglect.

Cataract is the most common cause of curable blindness. It is simply a cloudiness or opacity of the crystalline lens, so that cataract is *in* the eye, not *on* it, as we often hear it said. It may occur at any time of life, but nearly always at the two extremes, being often congenital, but usually one of the results of age. A gradual failure of sight, presenting the peculiarity of being better in a dim than in a bright light, at twilight than in the middle of the day, is very suggestive—quite characteristic indeed of certain partial cataracts occurring in the young; but the nature of the disease is rendered certain by the appearance of the pupil, which, instead of being black as in health, is gray or white. The pupils of all old persons are somewhat grayish, from the natural hardening of the lens, but their sight is good. The blindness is relieved by the removal, by a delicate surgical operation, of the opaque lens; and such has been the progress in this branch of medicine that, taking the average, over 90 per cent. are restored to sight. It is peculiarly important that the cataract of infancy and childhood should be removed during that period of life, because by obstructing the light it prevents the development of the nervous apparatus of the eye from want of exercise. Neglect to have it done is the

more inexcusable on the part of parents because the operation is not a difficult one, and is not often followed by bad results.

Tobacco Amaurosis is a form of blindness that results from the excessive use of tobacco. It is an affection of the optic nerve, and there are no visible changes in the eye, the only symptom being a gradual failure of sight. Abandoning the habit, sight is almost sure to return under a tonic treatment.

Floating Specks—or *Muscæ Volitantes*, as they are technically called—are small spots of various shapes, or more or less translucent bodies, singly or in strings like beads, which are seen floating about in the field of vision upon looking at a bright surface. They are merely shadows cast upon the retina by minute opacities in the vitreous humor, and, sight being good in other respects, they mean nothing. Any one can see them by looking at the sky or a white wall through a pin-hole in a card.

Color-Blindness is a peculiar affection which, while it may be caused by disease, is generally congenital. Sight for ordinary purposes is of normal acuteness, but certain colors, most commonly red or green, cannot be correctly distinguished. It is very much more frequent among men than women (3 or 4 per cent. to much less than 1 per cent.). Practically, it is interesting and important in its relation to the employees of railways and steamboats, who are governed by colored signals. The question of life and death being involved in the correct reading of the signals, all such employees should be carefully tested in this respect before being taken on.

Accidents and Injuries.—Certain wandering denizens of the air, such as moths, cinders, gnats, etc., frequently find their way into the eyes, and few of us have not felt "what small things are boisterous there." Entering with comparatively little force, they are not imbedded in the tissues, but are usually found lying between the ball and one or the other lid, generally the upper. This being so, they are sometimes very easily removed by pulling down the upper lid over the lower, so as to wipe the under surface of the former by the lashes of the latter. Failing in this, it is not worth while to waste time on flaxseed, the popular remedy—which acts, if at all, by getting between the lid and ball, lifting it off, thereby giving the tears a better chance to wash the foreign body out—as prompt relief can nearly always be secured by a little simple manipulation on the part of a friend. It is done in this way: Place the point of an ordinary lead-pencil or other small rod horizontally on the upper lid about half an inch from its edge; grasp the lashes firmly with the other hand, hold the pencil steady, tell the patient to "look

down," and just as he does so turn the lid quickly over the pencil, and, nine times out of ten, you will find the mote or cinder sticking to it. Having found it, wipe it gently off with either a handkerchief, a twisted piece of paper, or, best of all, a small soft brush made by wrapping a little cotton around the end of a match.

Workers in metal and stone are liable to more serious invasions by flying fragments of the material in which they work. These minute pieces of steel or stone fly off with so much force that very often they are imbedded in the clear front of the ball. An attempt may be made to remove them with the brush just spoken of or with a bluntly and smoothly-pointed stick of soft wood; but if it is not easily and quickly done a more skilful hand should be sought, as repeated efforts might seriously damage the transparent cornea. Prevention being better than cure, such artisans should always wear while at work strong eye-protectors.

Quite often these foreign bodies are of sufficient size, and strike the eye with force enough, to penetrate its walls and let out some of its humors, the most common being fragments of gun-caps and splinters of wood which fly up in chopping. Injuries of this character are of such serious import that no intelligent person would fail to shift, as soon as possible, the responsibility on his medical attendant. There is sometimes in these cases a special reason for seeking his help. If the cut through the coats lie in what is called the "dangerous region," which is a belt of the white of the eye about one-eighth of an inch wide lying immediately around the colored part, and especially if the missile be still within the ball, there is great danger of exciting in the sound eye the dreaded sympathetic disease, which, when once established, is practically hopeless, causing nearly always complete and irremediable loss of sight.

Not seldom the eyes are injured by caustics of one kind or another, the most frequent being unslaked lime in fresh mortar. In such cases a little castor or sweet oil should be immediately dropped into the eye, and then the lime washed out with water.

Tests of Vision.

In the types below numbered 1 and XX. we have the tests respectively for near and distant vision. The perfect eye should distinguish No. 1 at one foot, and No. XX. at twenty feet, the retinal images of the two being of the same size at those distances.

The power of accommodation being normal, No. 1 should be read, with an effort, as near as three inches at the age of ten; four inches at

twenty; five and one-half at thirty; and eight at forty. When this "near point" recedes beyond nine inches, which it usually does about forty-five, it is time to put on spectacles. The rule for their selection is simply, in a few words, to put on a convex glass strong enough to bring it up again to nine inches. If nearer than that, the glass is apt to be uncomfortably strong, while if it is not brought within ten inches it is not likely to afford complete relief, especially at night, when a rather stronger lens is needed than will answer under the brilliant illumination of daylight.

A person who can read No. XX. at twenty feet, and cannot read No. 1 as near as he ought at his age, is almost certainly moderately far-sighted.

One who can read No. 1 as he ought, but cannot make out No. XX., is moderately near-sighted. If No. 1 be very distinct at a nearer point than one foot while distant vision is very bad, the person has myopia of a higher degree.

One who can distinguish neither at the proper distance is either astigmatic or very far-sighted—or over-sighted, as now appears to be the better term—or very near-sighted. In astigmatism and far-sight both near and distant vision are relatively much the same, equally good or bad. In high degrees of near-sight distant vision is proportionally very much worse.

No. 1.*—Diamond.

The place of our retreat was in a little neighbourhood, consisting of farmers, who tilled their own grounds, and were equal strangers to opulence and poverty. As they had almost all the conveniences of life within themselves, they seldom visited towns or cities in search of superfluities. Remote from the polite, they still retained the primeval simplicity of manners; and frugal by habit, they scarce knew that temperance was a virtue. They wrought with cheerfulness on days of labour, but observed festivals as intervals of idleness and pleasure. They kept up the Christmas carol, sent true-love knots on Valentine morning, ate pancakes on Shrove-tide, showed their wit on the first of April, and religiously cracked nuts on Michaelmas eve. Being apprised of our approach, the whole neighbourhood came out to meet their minister, dressed in their finest clothes, and preceded by a pipe and tabor; a feast also was provided for our reception, at which we sat cheerfully down; and what the conversation wanted in wit,

XX.

Y A C E G L

* This type is really 1½ and should be read by the normal eye as far as one foot and a half, but practically it will answer very well.

THE CARE OF THE EARS.

CONSIDERING man merely as a constituent element of the community, deafness is not so serious as blindness; but in its relation to the happiness of the unfortunate individual it is generally regarded by those having opportunities of observation as the worse of the two.

The deaf never receive the sympathetic consideration universally accorded to the blind on account of their physical helplessness, but, on the contrary, are often treated with impatience, if not with positive harshness. In addition, they are frequently harassed by subjective sensations—noises of various kinds, "so exquisitely distressing," says Politzer, the greatest authority on the ear, "as to undermine often both the physical and moral powers of the individual, and in some cases even to lead to suicide." Their dispositions suffer in consequence, and they are apt to become sensitive, suspicious, and reserved. This is peculiarly the case with those who lose their hearing in childhood while their moral natures are even more soft and pliant than their physical bodies. So deafness is very much more of an affliction than those with good hearing are prepared to admit.

The ear is made up of three divisions: a sound-collecting, a sound-transmitting, and a sound-receiving apparatus,

With the first of these every one is familiar in the peculiarly-shaped external ear or auricle. The waves of sound, having been collected by this, traverse the auditory canal, which is about an inch and a quarter long, and fall upon a delicate membrane stretched tightly across the inner end of it. This, in ordinary conversation, is often spoken of as the "drum of the ear," but it is, in fact, only the drum-*head*, or tympanic membrane, the drum being a cavity with other parts in addition. Fastened to the inner surface of this drumhead is the first of a chain of three tiny bones, called the hammer, the anvil, and the stirrup, from their resemblance to those objects, united, as other bones, by joints (which sometimes, like them, become stiff) that extend across the drum-cavity. The end of the last one, the foot of the stirrup, fits into an oval hole in the inner bony wall of the drum, which is the outer wall of the labyrinth. It lies immediately in contact with the fluid

filling the labyrinth or inner ear, the sound-receiving apparatus, in which fluid the ends of the nerve of hearing are bathed.

The waves of sound striking against the taut drumhead, it is thrown into vibrations, and these vibrations are transmitted through the chain of bones to the fluid, and through that to the nerve. This, in brief, is the mechanism of hearing.

Connecting the drum with the throat is a small and crooked tube, about an inch and a half long, called the Eustachian tube. This tube, as well as the drum itself, is lined with the same mucous membrane that covers the throat. Indeed, the drum is, anatomically considered, an offshoot from the throat. Such being the case, we would naturally expect the drum to suffer with the throat in disease. And the facts bear out the anticipation. Fully three-fourths of all cases of deafness are attributable to affections of the drum or conducting apparatus that are almost invariably associated with similar disease in the throat. Although persons hard of hearing may not complain of the throat, it very rarely happens that trouble cannot be found there if looked for. When we remember how exceedingly common colds and sore throats are, bearing in mind that the back part of the nose is a part of the upper throat, into which the Eustachian tubes enter, it is very evident why this form of deafness is so frequent.

Inflammations of mucous membranes are always accompanied by swelling or a discharge of mucus, generally both ; and, keeping these facts in view, it is very easy to understand how these troubles cause deafness. The purpose of the Eustachian tube is to keep the drum full of air, and Nature has provided that it shall open every time we swallow or yawn, so that the air may enter easily if there be need for it. You have no doubt often felt the air rush into the ears when blowing your nose violently, and felt a roaring in them when gaping widely.

Sometimes in fresh colds the membrane surrounding the mouth of the tube becomes so swollen as to close it, or it becomes stopped by a plug of mucus, and then deafness results, because the air in the drum is partially absorbed and cannot be replaced. In these cases, when the tubes are opened, the restoration of hearing is often magically instantaneous. It occasionally happens that hearing suddenly returns of itself with a sudden snap. The swelling, however, is not always, or even generally, restricted to the *mouth* of the Eustachian tube, but involves the length of the tube and the drum itself. Of course swelling in these situations, and especially the presence of a viscid fluid in so delicate an instrument as the drum, must seriously interfere with its proper working. In the acute forms of these troubles relief can generally be af-

forded, but when they are allowed to become chronic the changes in the tube and drum often assume a permanent character, and complete restoration to hearing is then impossible.

The moral to be drawn from this is, that deafness should be treated promptly in the beginning, before irreparable damage is done. This is peculiarly true of these troubles occurring in children, as they are then exceedingly amenable to treatment, while their neglect is liable to eventuate in permanent impairment of hearing.

In this connection it is proper to make a suggestion to teachers in regard to deaf children. They are necessarily at a great disadvantage on account of their infirmity, and are often accused of stupidity or inattention when the truth is they cannot hear. So, whenever there is any reason to suspect such a thing, carefully test the hearing by conversation across the room with the child's back to you, beginning with a whisper and gradually raising the voice, making him repeat each word after you. Ascertaining those who are deaf, seat them nearest to you, and *be patient with them*, remembering that one of the frequent results of deafness and its accompaniments is an injurious effect upon the disposition, and that probably under similar circumstances you would not be amiable.

Earache, a familiar enemy in most families with children, is generally due at first to a congestion of the lining membrane of the drum, and can usually be promptly relieved by *heat*. The heat may be applied in various ways—by cloths wrung out of hot water, raw cotton heated by application to the surface of a tin vessel filled with boiling water, flannel bags of salt or sand heated in an oven, or, best of all, a steady, gentle stream of water, as hot as it can be borne, for twenty or thirty minutes, into the aural canal. Sometimes simply breathing into the ear will give relief. The old-fashioned remedy of a boiled onion is not a bad one, but never apply poultices to the ear: they are liable, while giving temporary ease, to do eventual injury. Abjure spirits of camphor, kerosene, and such remedies; they do no good, and may do harm. If heat fails, call in your physician, and he may try the celebrated new remedy cocaine, which sometimes succeeds in relieving pain in the ear, though it often fails, being by no means so satisfactory as in eye troubles.

The earache being neglected, and the congestion of the lining membrane of the drum going on to inflammation, mucus is poured out just as it is from the nose in a fresh cold. The Eustachian tube being also swollen, the mucus cannot escape by that, which is the only avenue, and so it accumulates, causing fearful pain, until by pressure upon the delicate drumhead it brings about its ulceration and perforation, allow-

ing the mucus, which soon changes to matter, to find its way out through the external canal.

Otorrhœa—which means a running from the ear—is the technical name given to this state of things, and the cause of it, above set forth in detail, is commonly called "a rising in the head." You will note that a hole in the drumhead is one of its constant features. Notwithstanding the great damage to the ear, it is, owing to its common occurrence and to the fact that some cases do get well (that is, the running stops) without any special treatment, often looked upon by parents, and occasionally by physicians who have not quite kept up with the times, as a trifling matter, their advice in such cases being, "Let it alone and he will outgrow it." But it is by no means a trifling matter. If neglected, the pus lying in the canal decomposes and becomes very offensive, making the poor child a stench in the nostrils of his associates. To illustrate to what extent this neglect has been carried in some few instances, it may be mentioned that living maggots have been found in the ear. Another consequence of a want of attention is much greater deafness than would have followed prompt treatment. But the evil effects of neglect of a running from the ear do not always end here. The disease may extend to the bone, and thence to the brain, the dividing-wall between the ear and the brain being exceedingly thin, and cause *death*. The wonder is that more fatal cases are not recorded, and, as it is, those who are not familiar with the subject would be shocked to know how many die from this cause. It need not be said, therefore, that they should always receive medical attention. The treatment is simple and the services of a specialist are not usually required, any well-informed physician being competent to undertake most of them. There certainly can be no excuse for not keeping them clean by daily syringing out the ear with warm water. All applications to the ear should be *warm*.

Wax, or a compound commonly called by that name, is a natural secretion of the walls of the aural canal of a yellowish-brown color and peculiar odor, the purpose of which, it is supposed, is to repel wandering insects. Quite often it accumulates until, by blocking up the canal, it causes deafness; which, by the way, generally comes on with more or less suddenness. It can generally be seen as a dark mass by an inspection before an open window, the auricle being pulled upward and backward to straighten the canal. It should always be removed, as its presence in a hardened mass is apt to prove injurious. Fill the ear nightly with warm soda-water (a teaspoonful of cooking soda to a tumbler), letting it remain fifteen or twenty minutes for three or four nights, to soften

the wax, and then syringe somewhat forcibly with warm water. But, unfortunately, this syringing of the ear is not as simple as it sounds, nor is it entirely safe in inexperienced hands; so it is best to go to your doctor at once, especially as other changes are often associated with this accumulation which will need attention.

Insects of various kinds frequently get into the ear, and by scratching the exquisitely sensitive drumhead with their claws often cause frightful pain and the most terrific noises. (I was called from my bed early this morning to relieve marked distress occasioned by so harmless a thing as a common house-fly.) When the presence of an insect is suspected, the ear should be filled with warm water, which will either run him out or drown him.

Foreign bodies, such as beads, peas, cherry-stones, etc., in the aural canal "should never be touched by incompetent hands." If they cannot be shaken out by jarring the head, the aid of an expert should be obtained, as a number have lost their lives from badly-directed attempts to remove them

Injuries to the ear, through rupture of the drumhead, sometimes result from the violent concussion due to a loud explosion, as of a large cannon. Now and then it is a consequence of a concussion of a more homely and every-day character—to wit, a box on the ear. As "there are a few well-authenticated instances of death having occurred from this barbarous custom," it is superfluous to add that it is "more honored in the breach than in the observance." The drum is sometimes injured by sharp instruments, such as hairpins, knitting-needles, toothpicks, etc., and my reader is warned against scratching the ear in any such way. Never put any instrument in the ear except your finger; you cannot get that deep enough to do any harm.

Before concluding, I must again direct attention to the importance of looking after those every-day troubles earache and "rising in the head." To their neglect are attributable a great many cases of incurable deafness, and some of death.